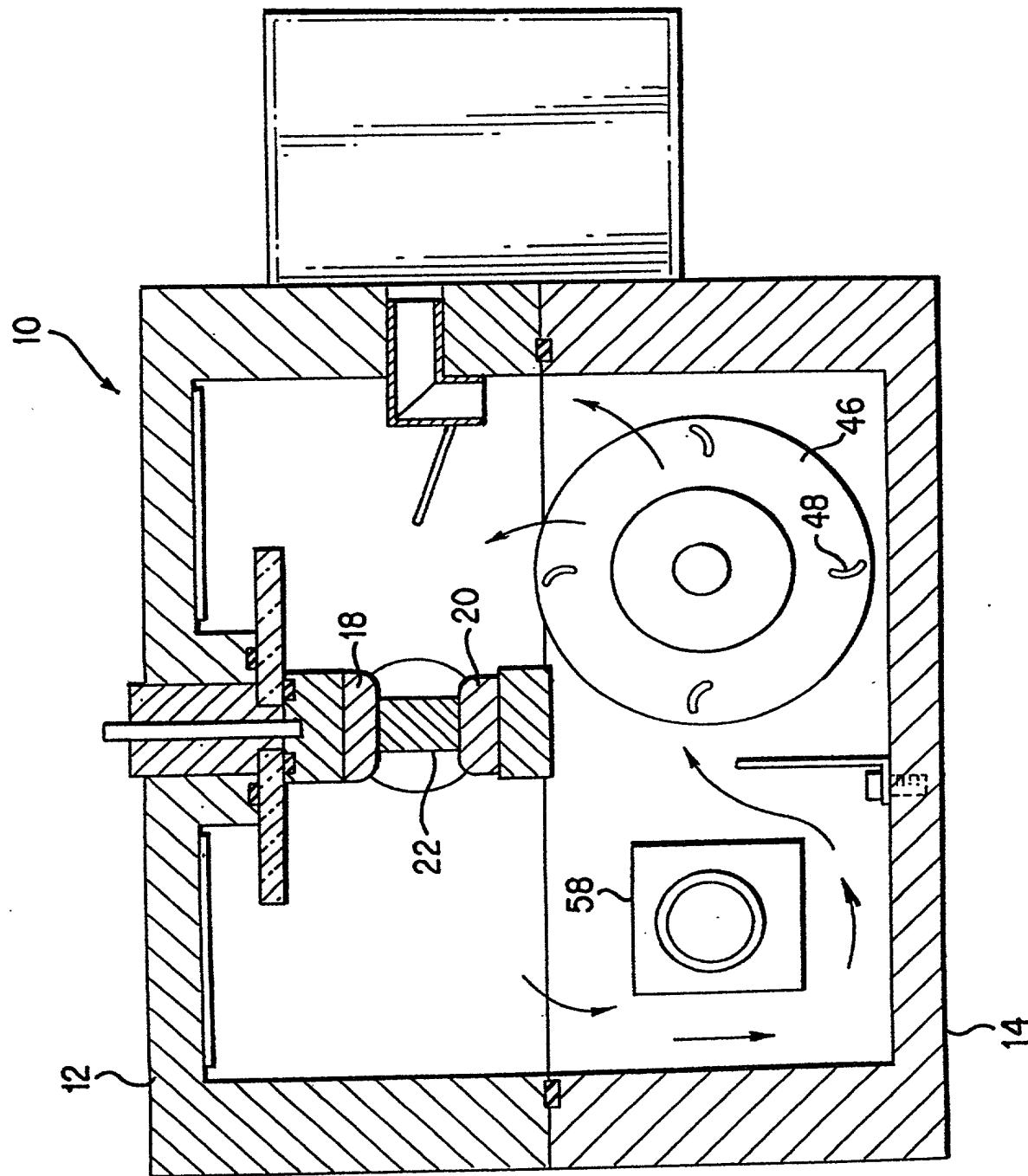


FIG. 1 PRIOR ART



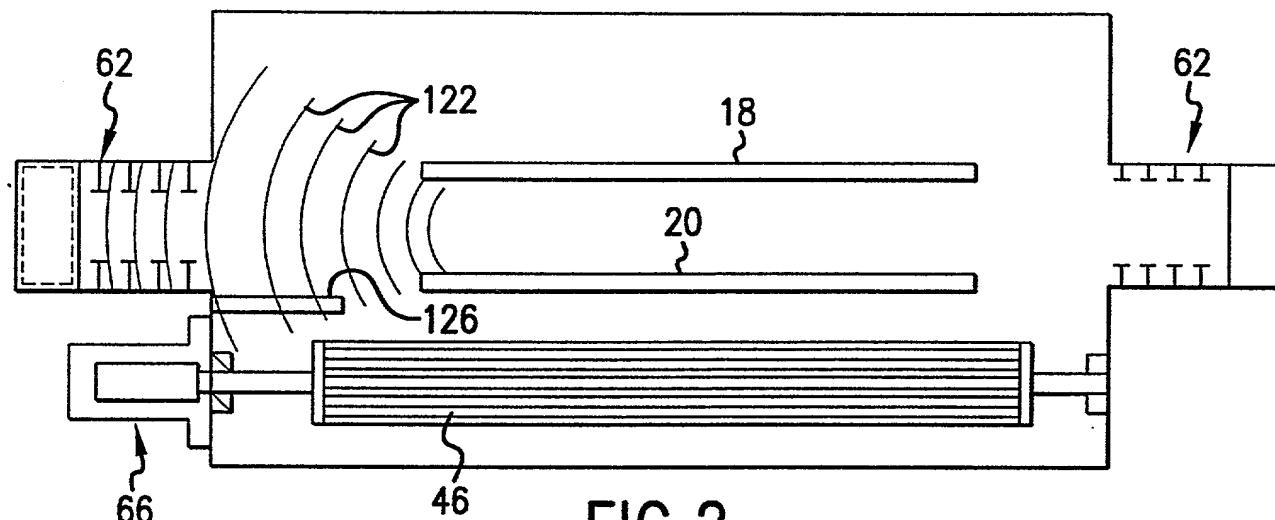


FIG. 2
(PRIOR ART)

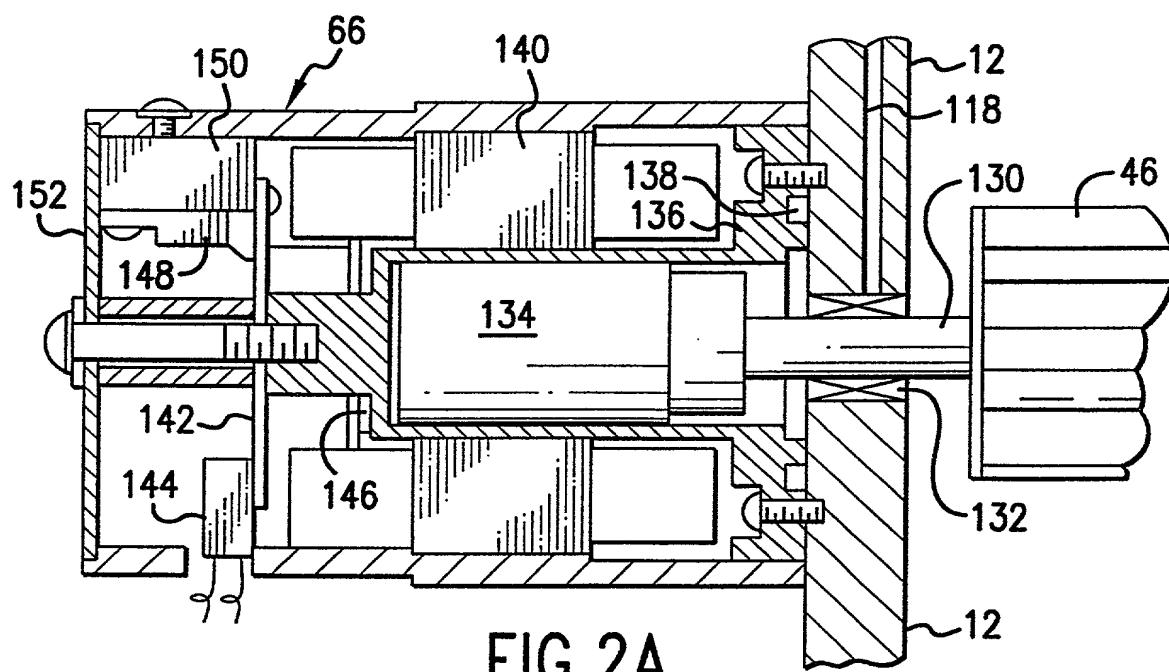


FIG. 2A
(PRIOR ART)

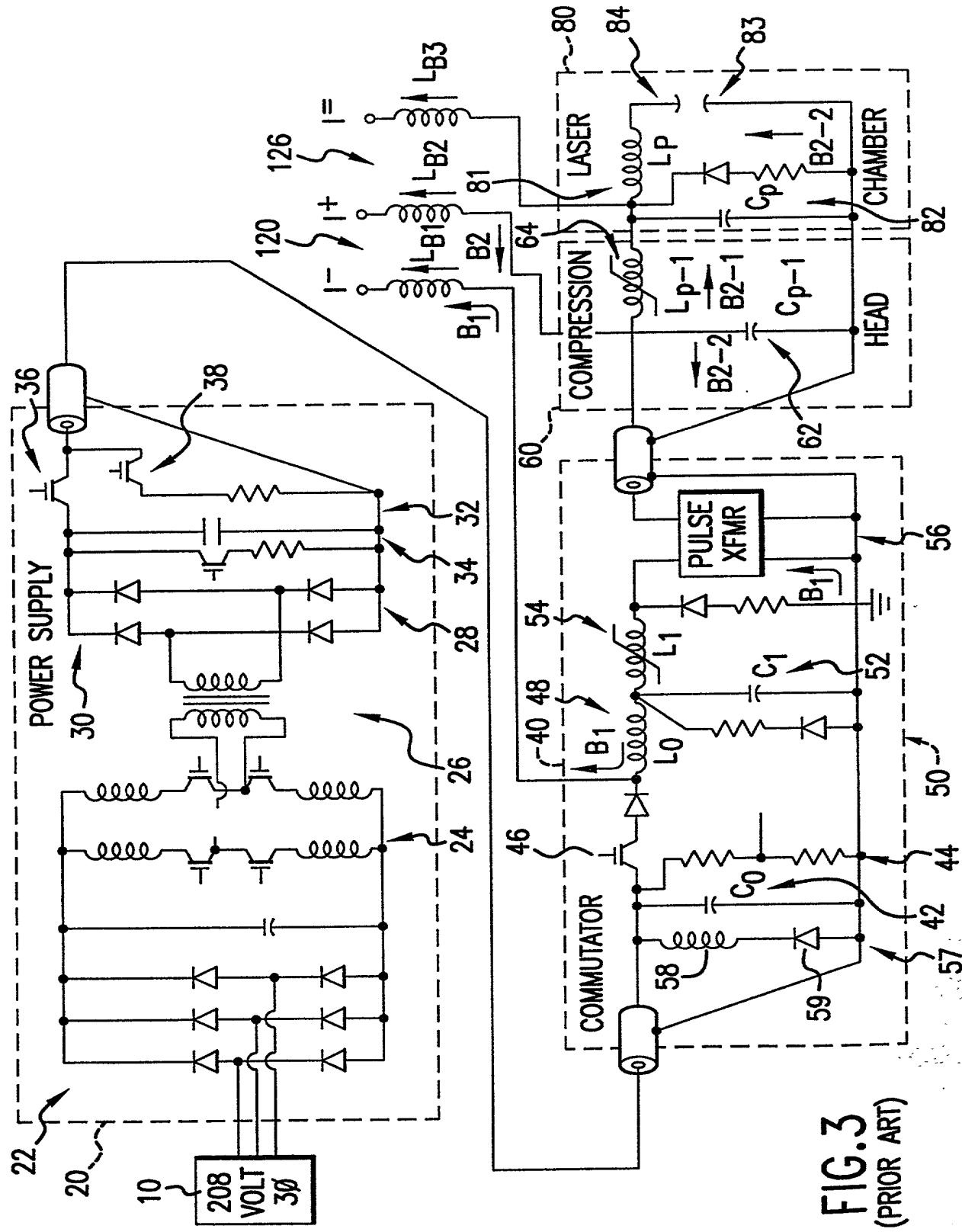


FIG. 3
(PRIOR ART)

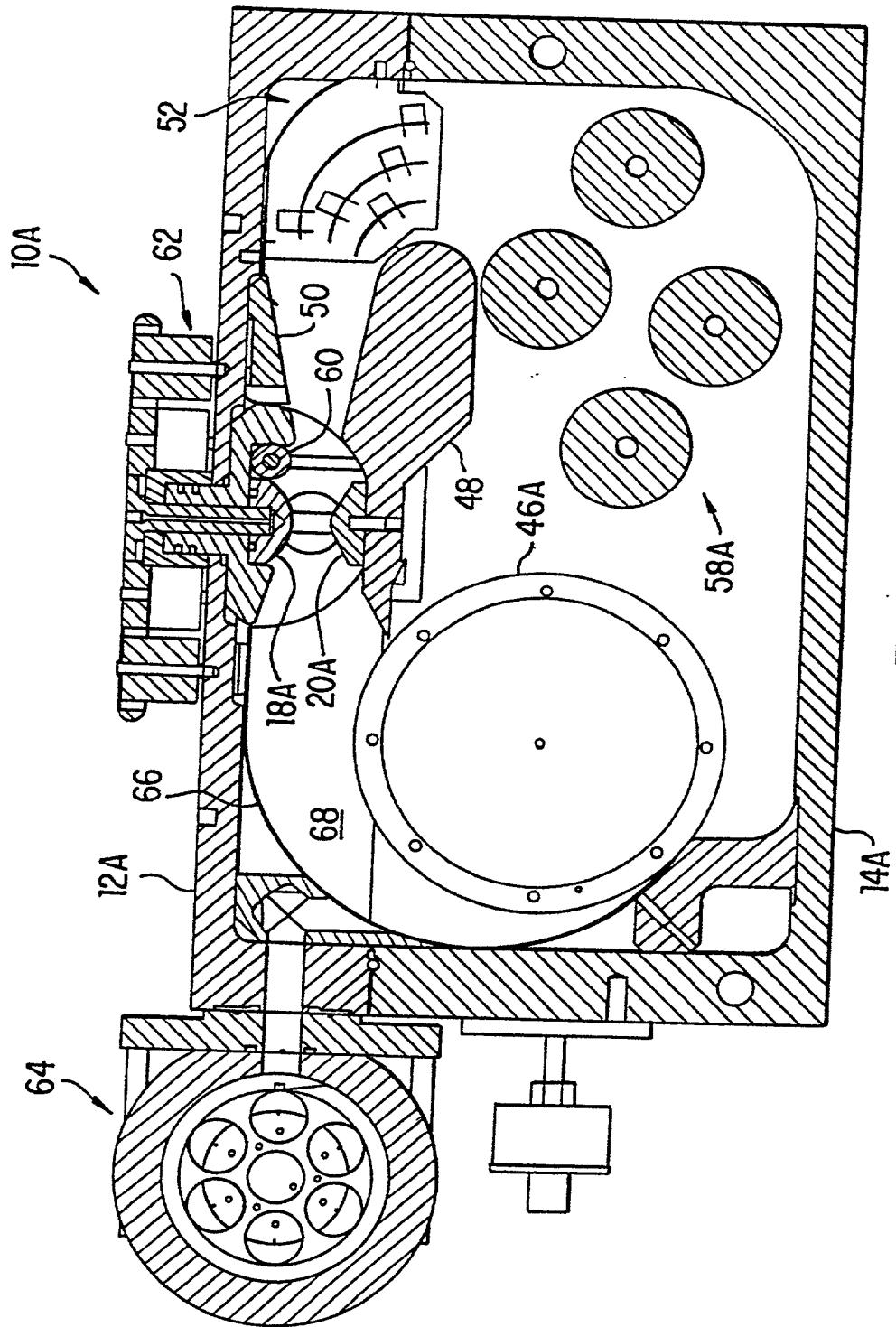


FIG. 4A

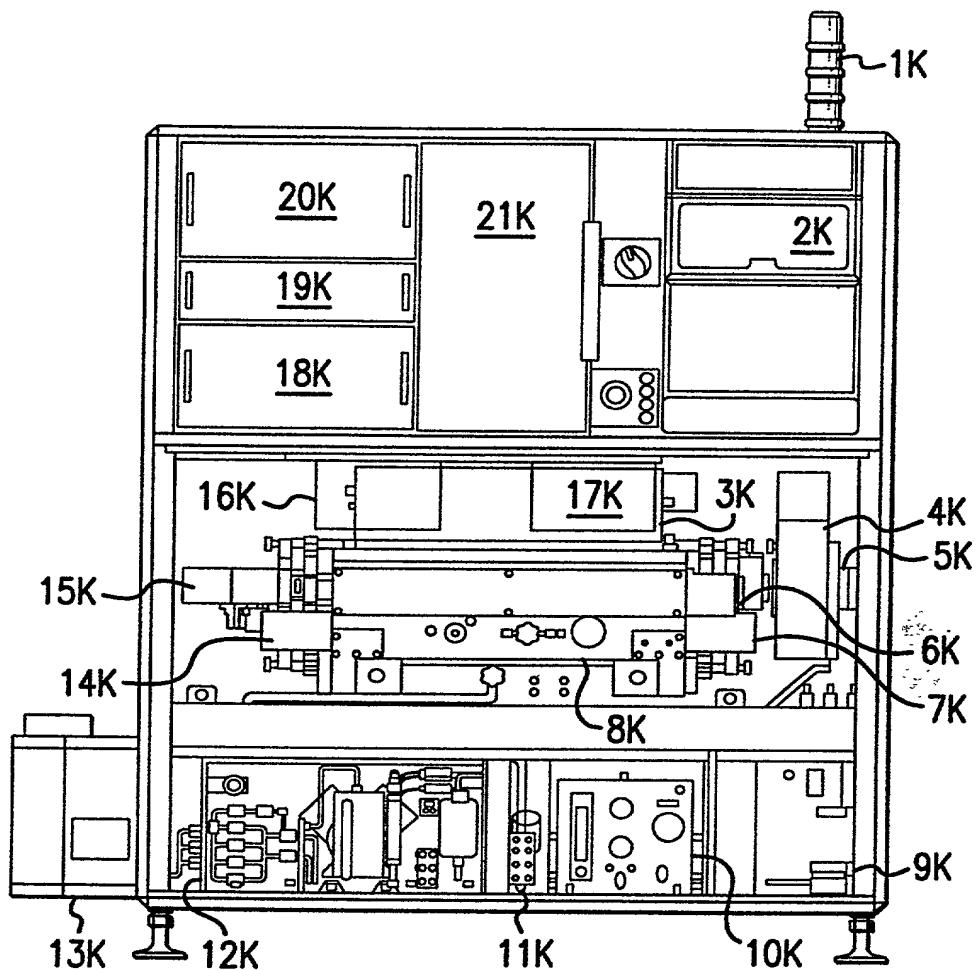


FIG.4B

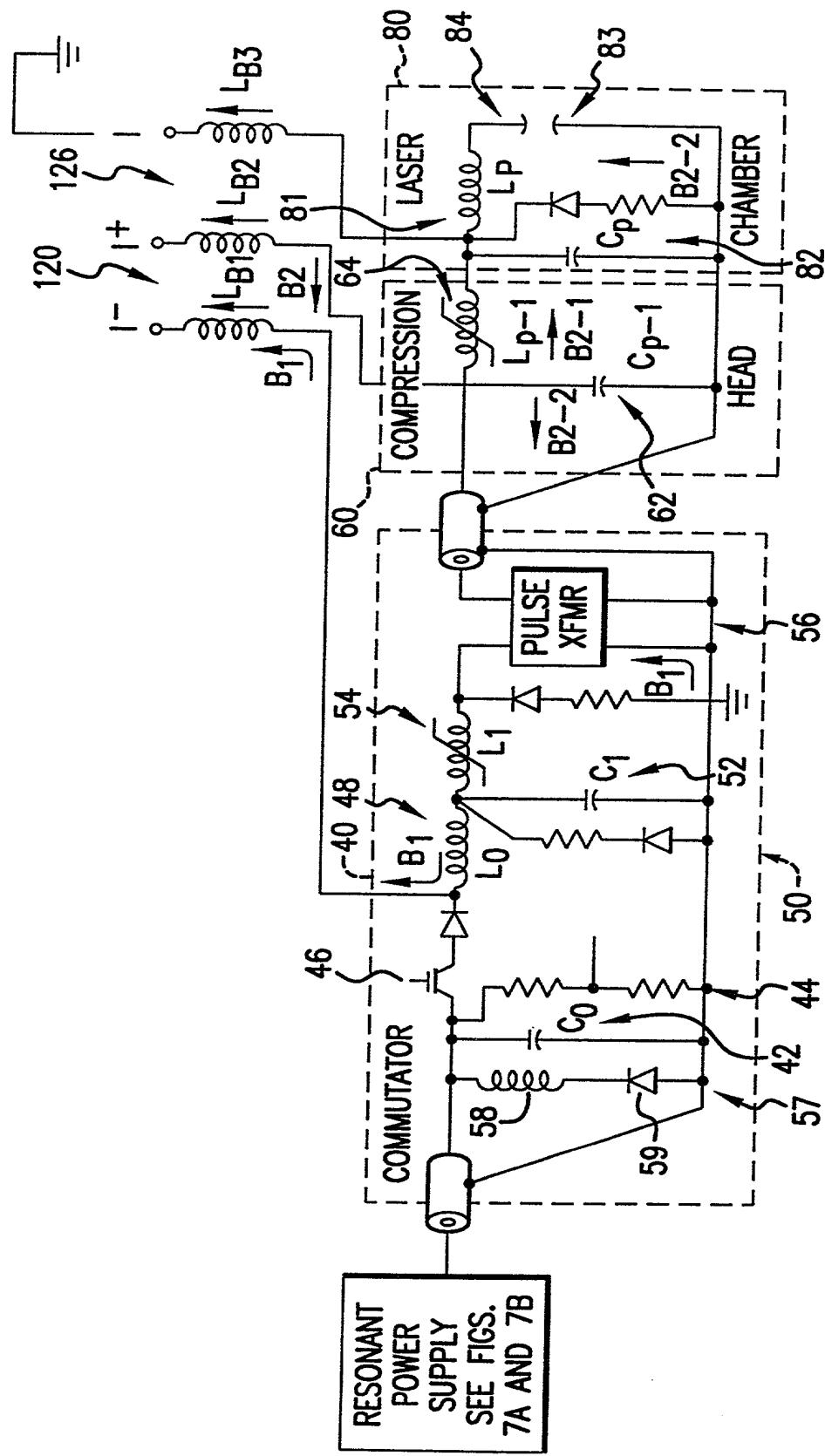
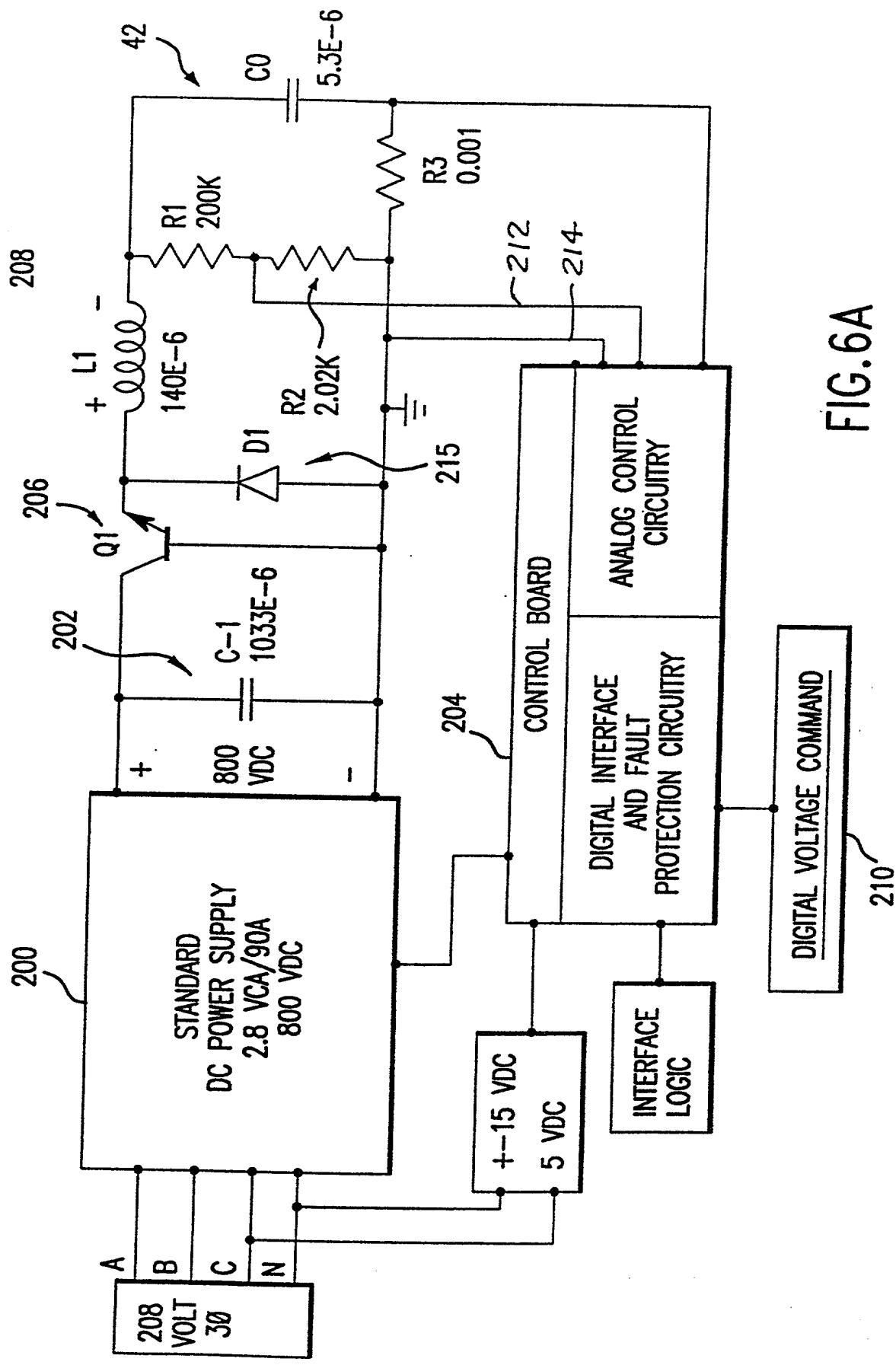


FIG. 5



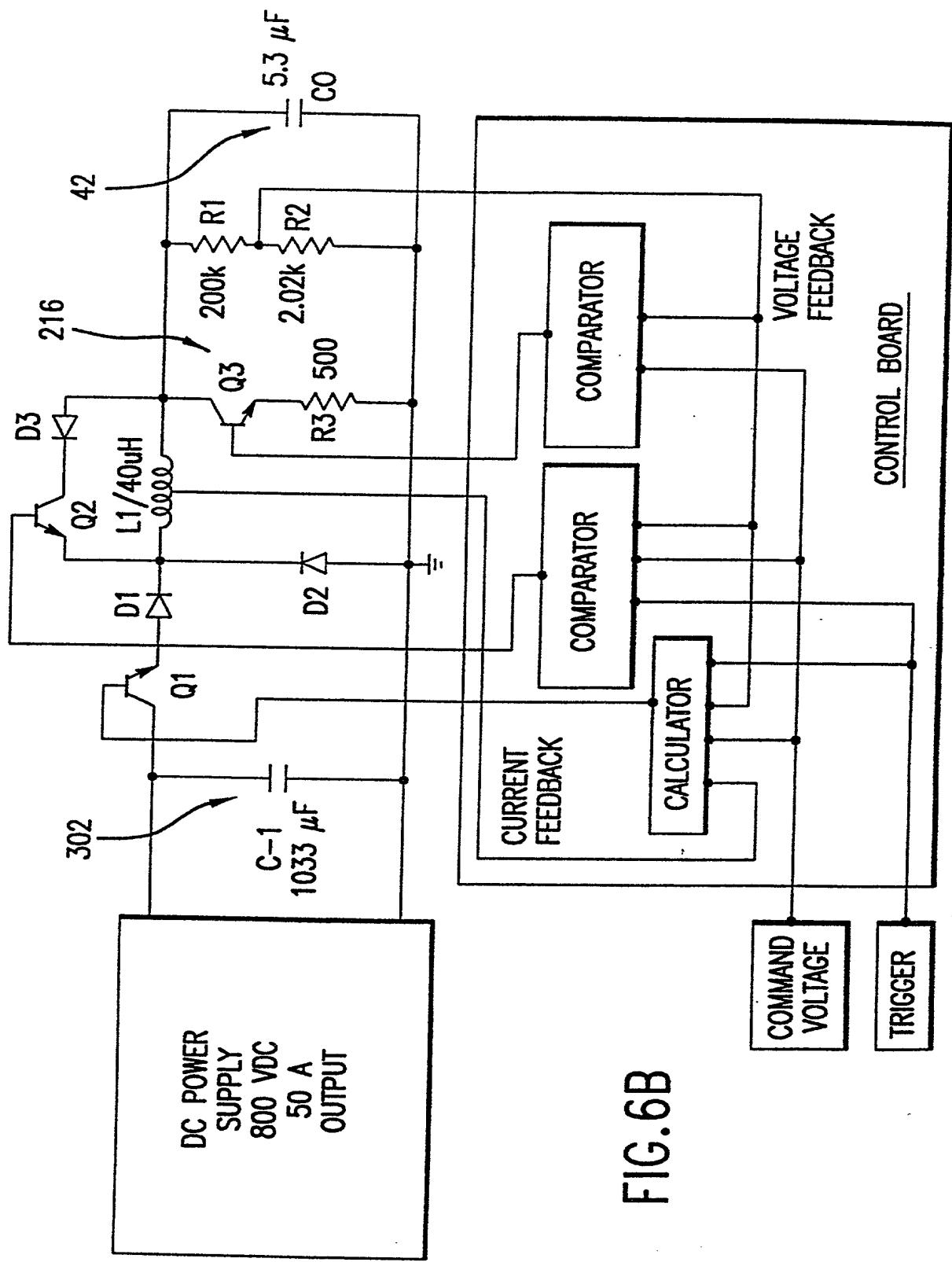


FIG. 6B

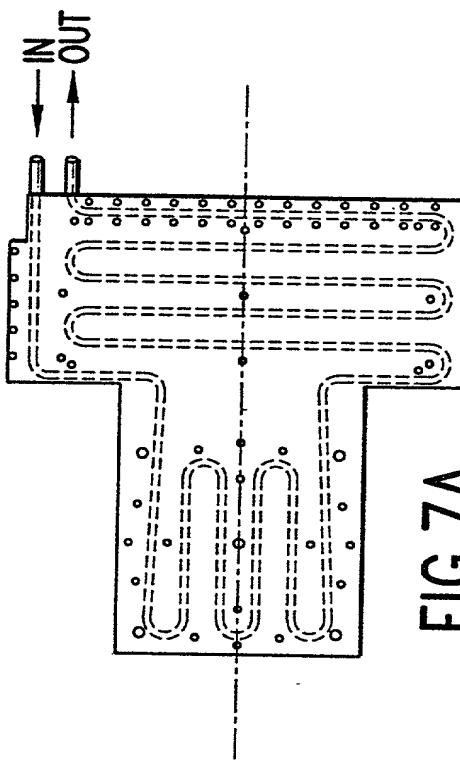
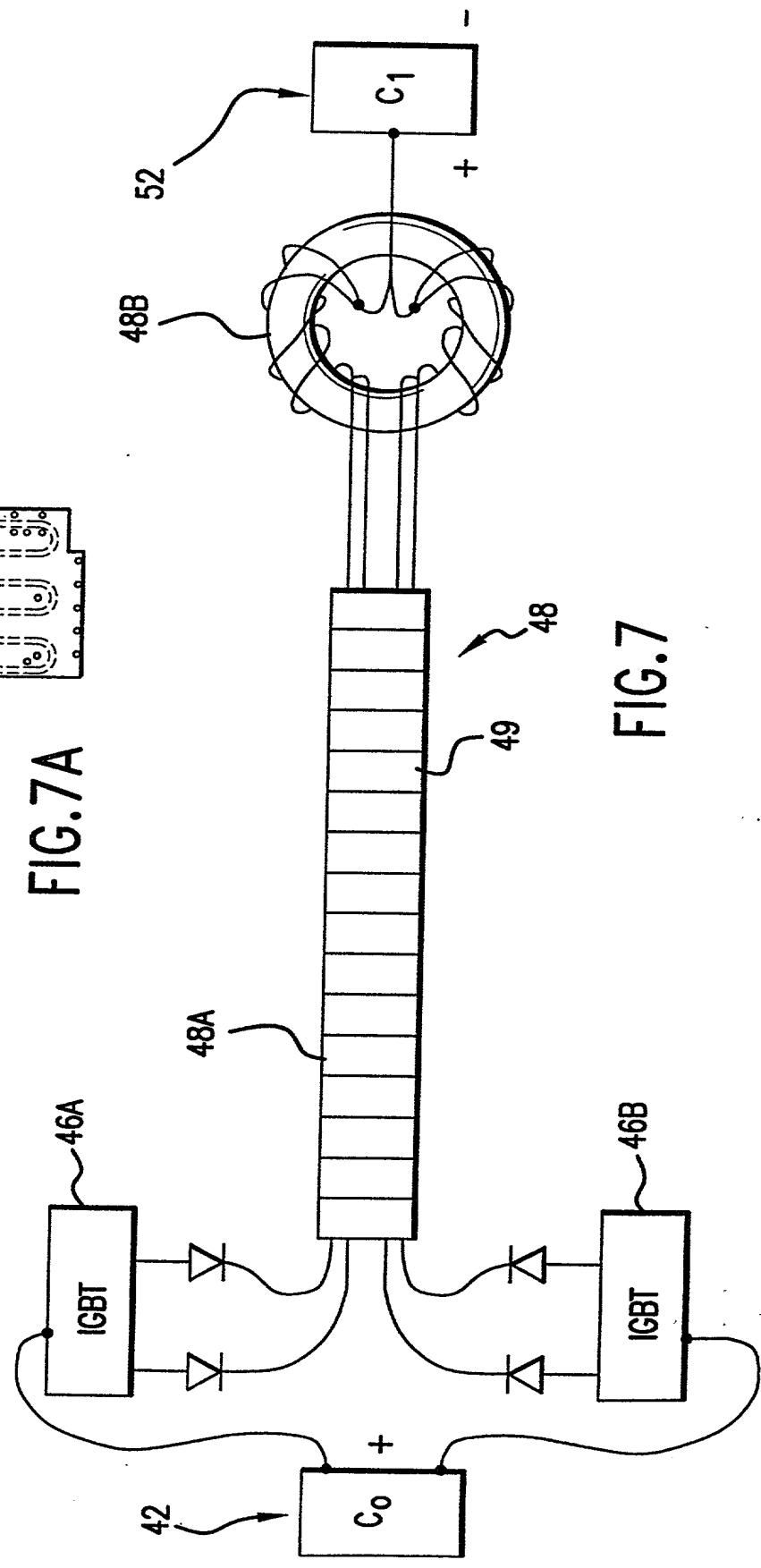


FIG. 7A



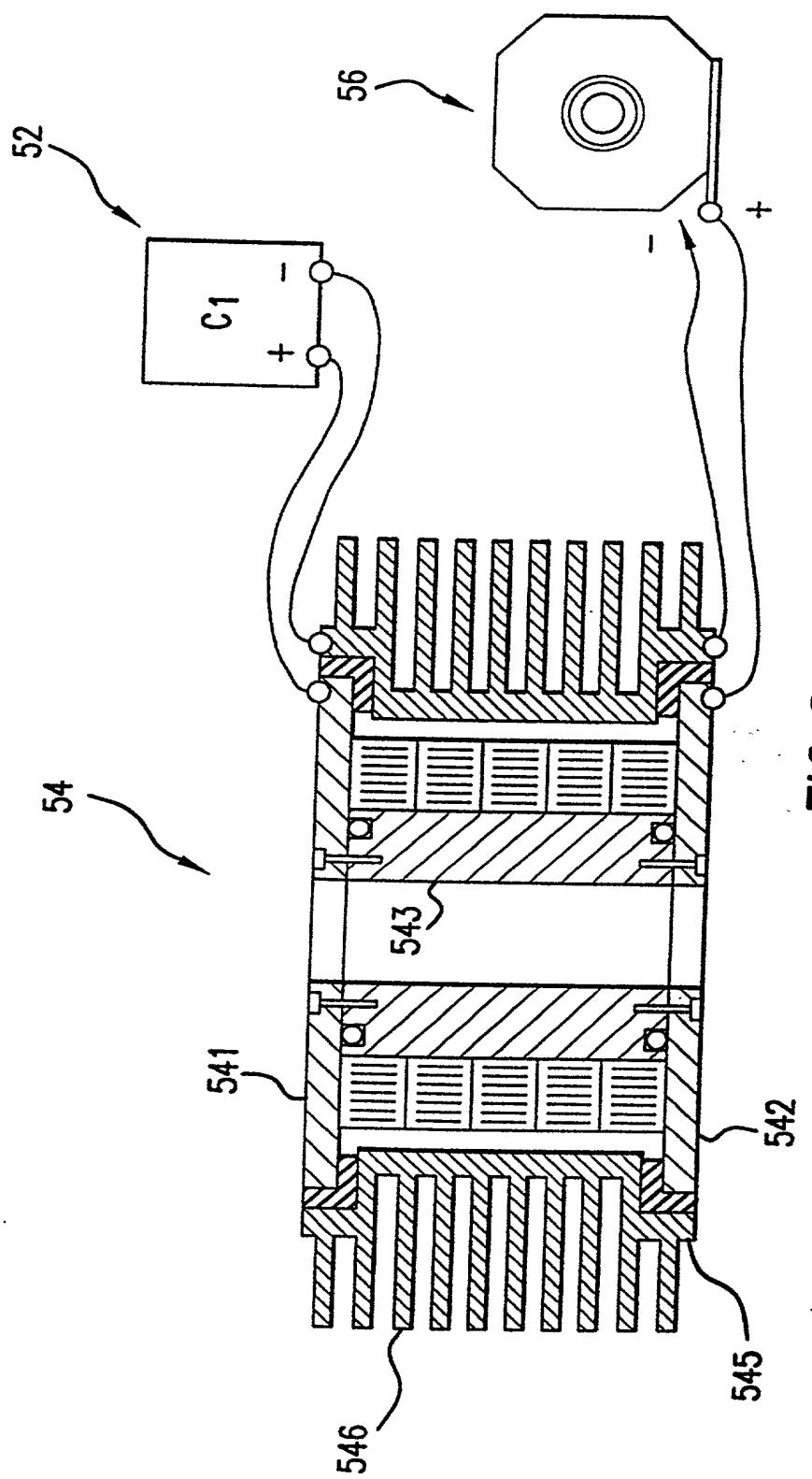


FIG. 8

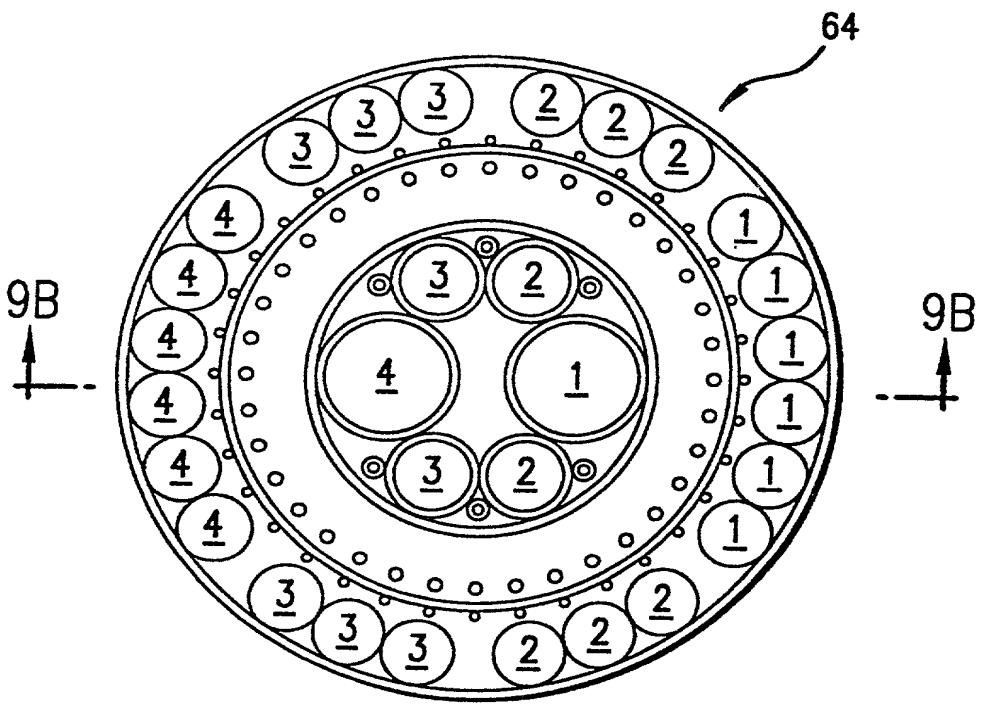


FIG. 9A

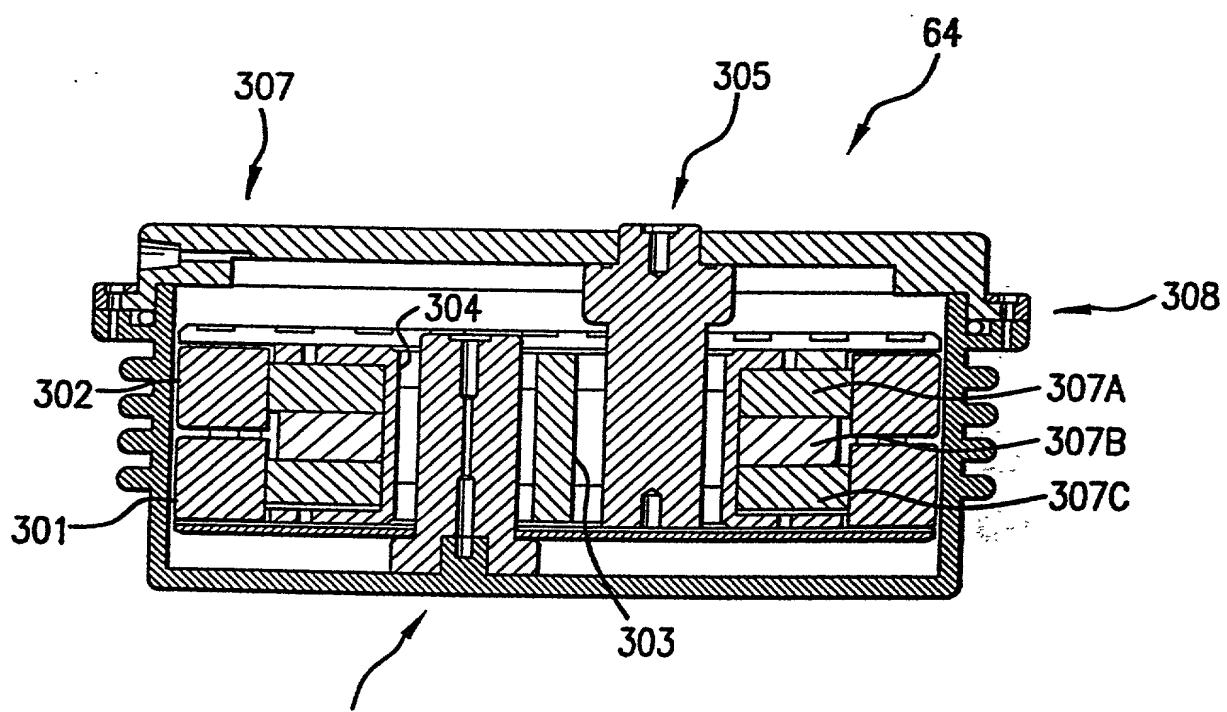
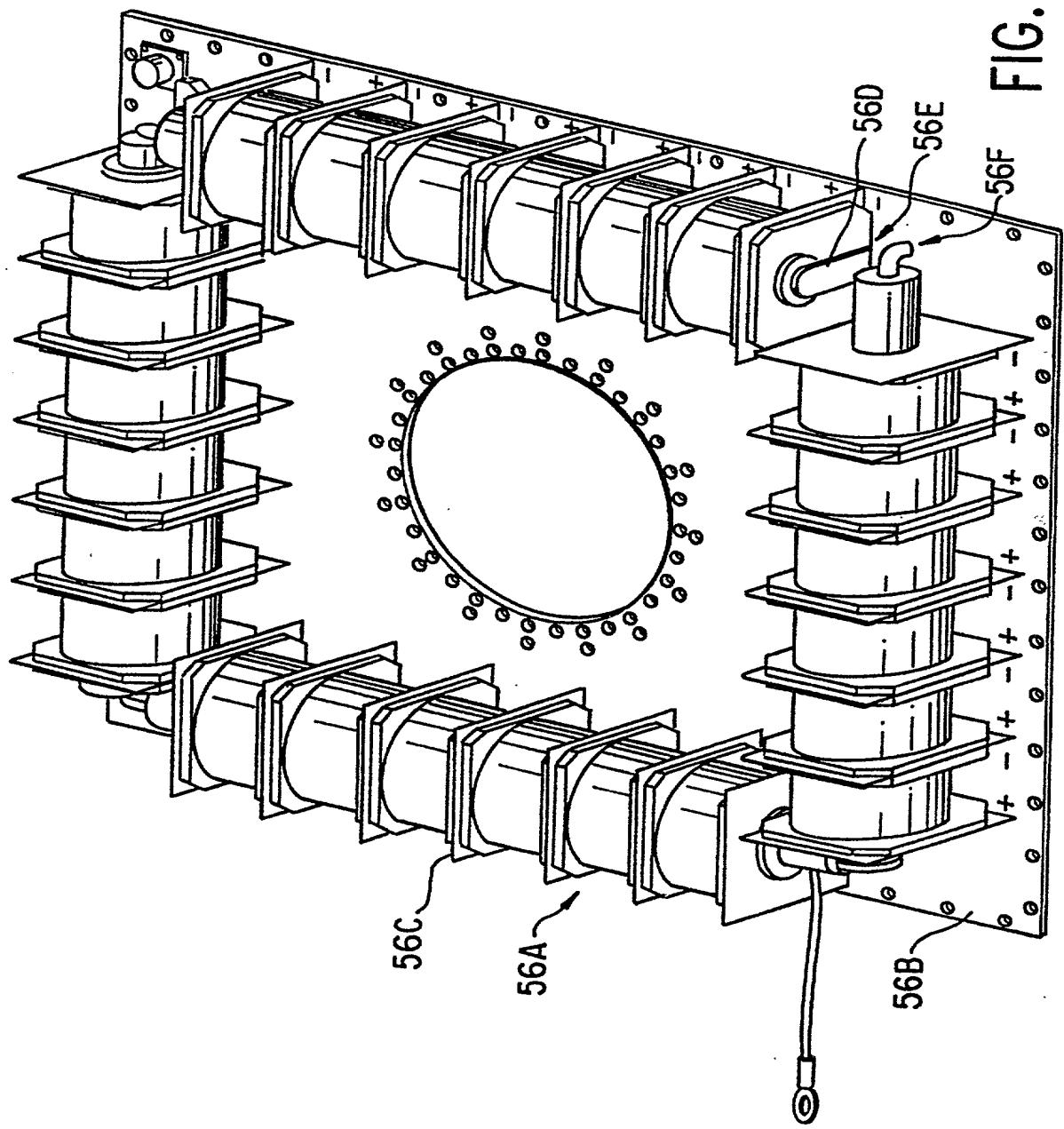


FIG. 9B

FIG. 10



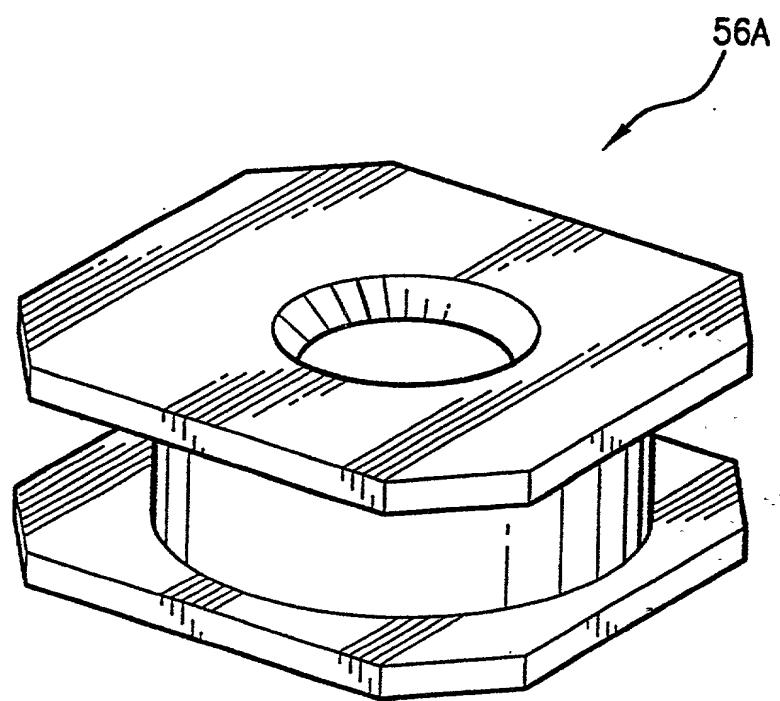
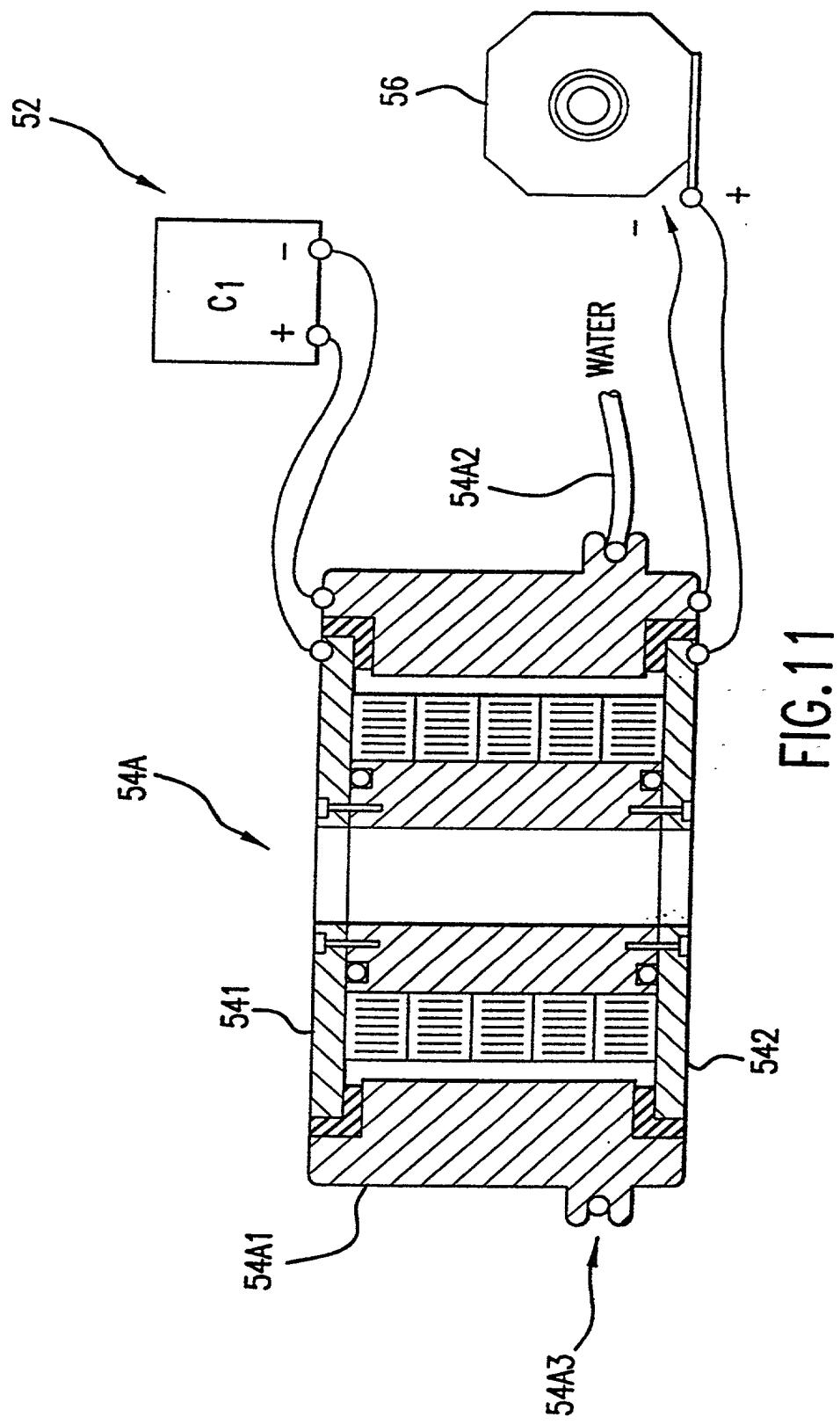


FIG.10A



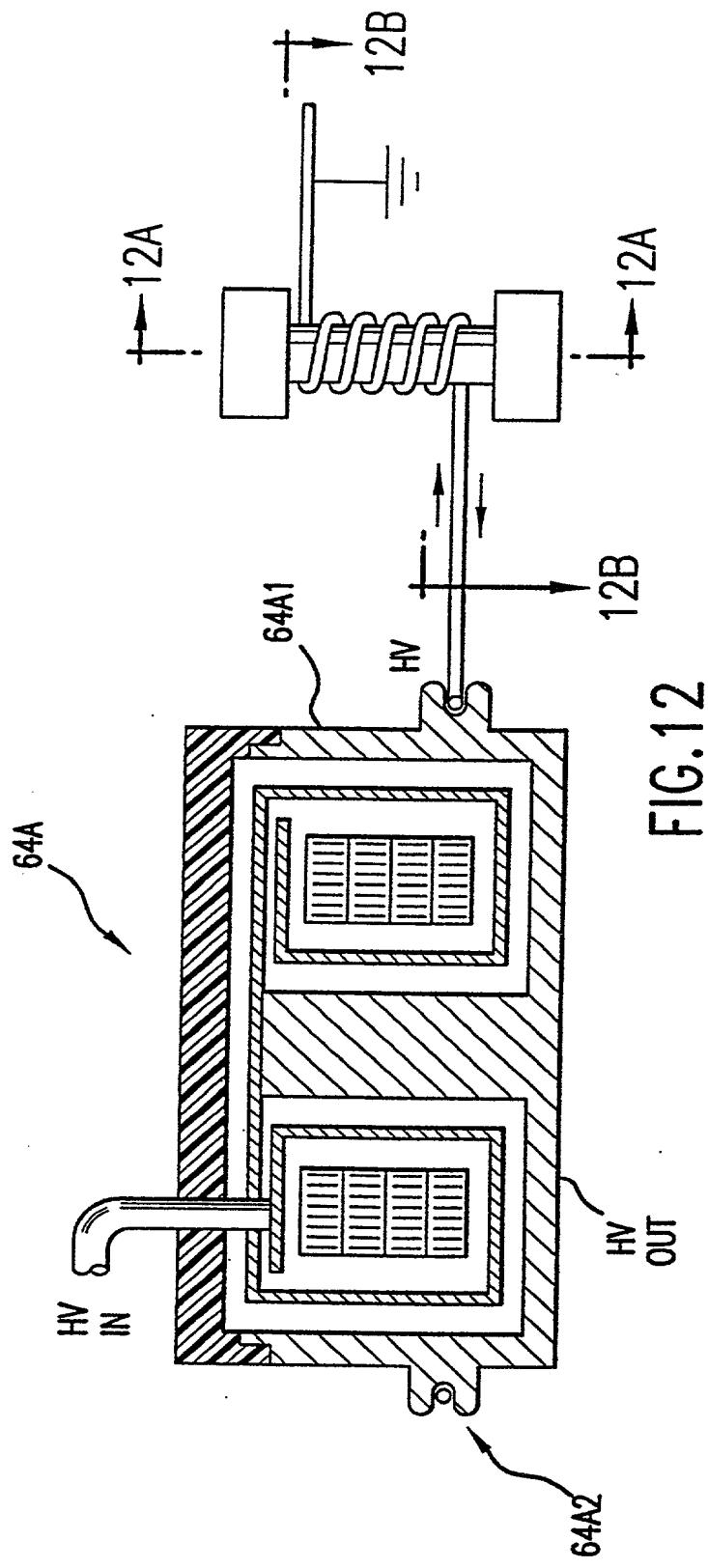


FIG. 12

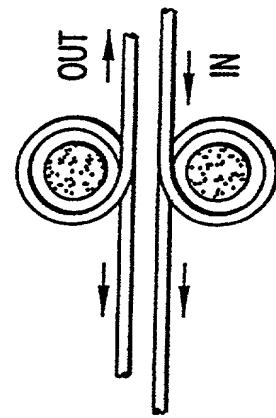


FIG. 12B

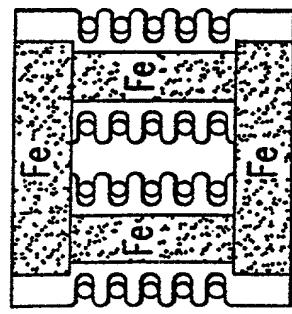


FIG. 12A

FIG. 13

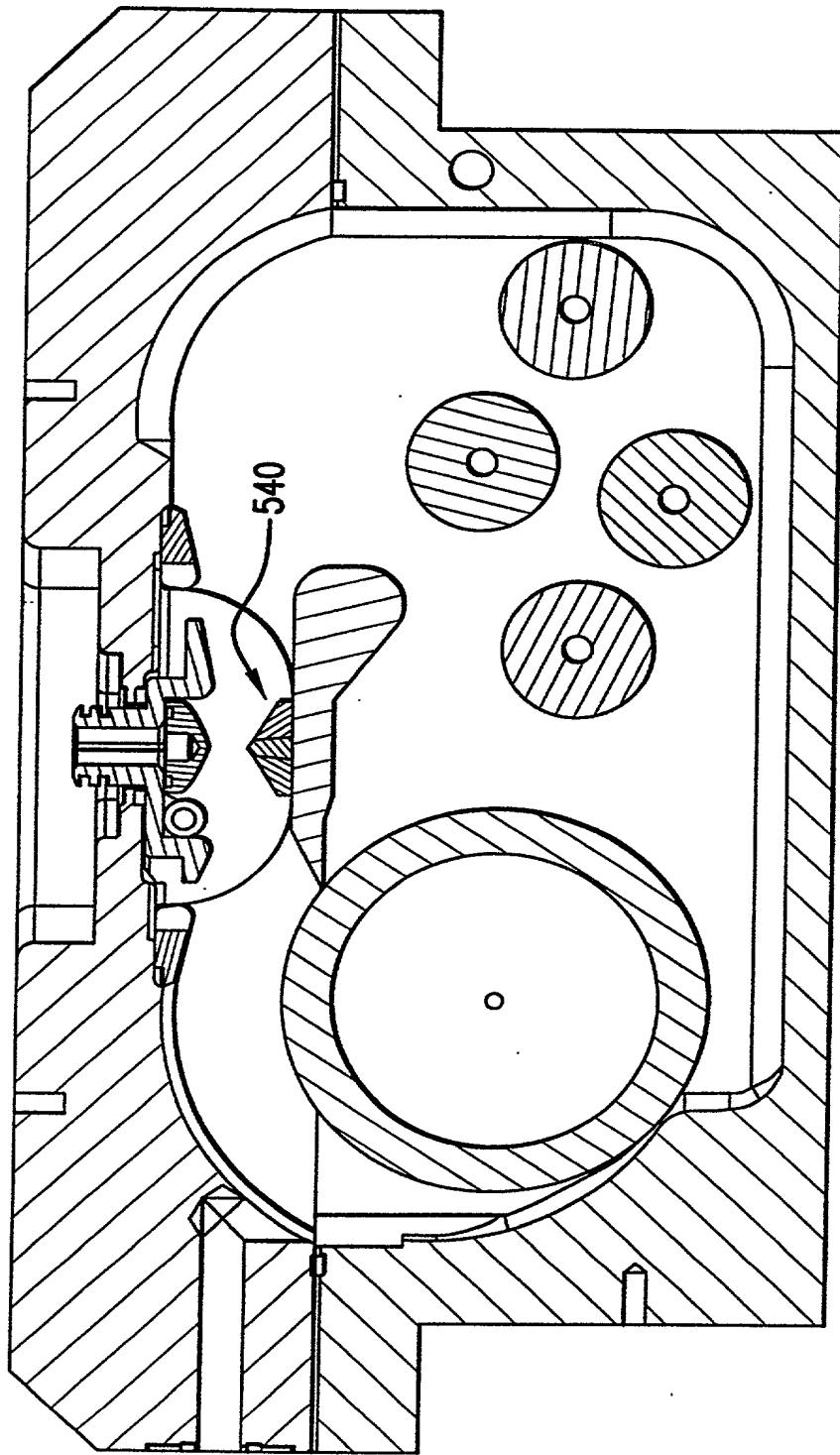


FIG. 13A(1)

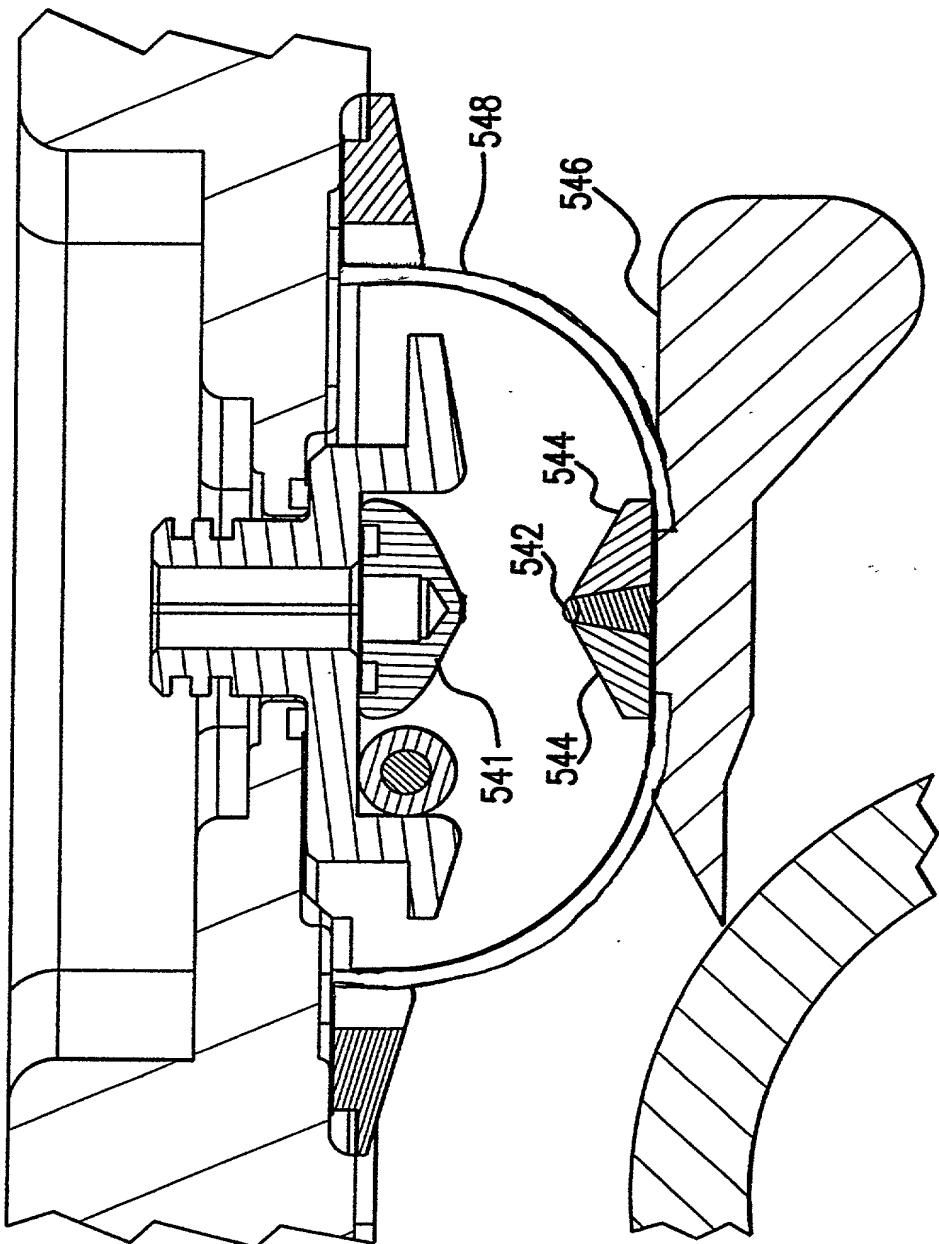
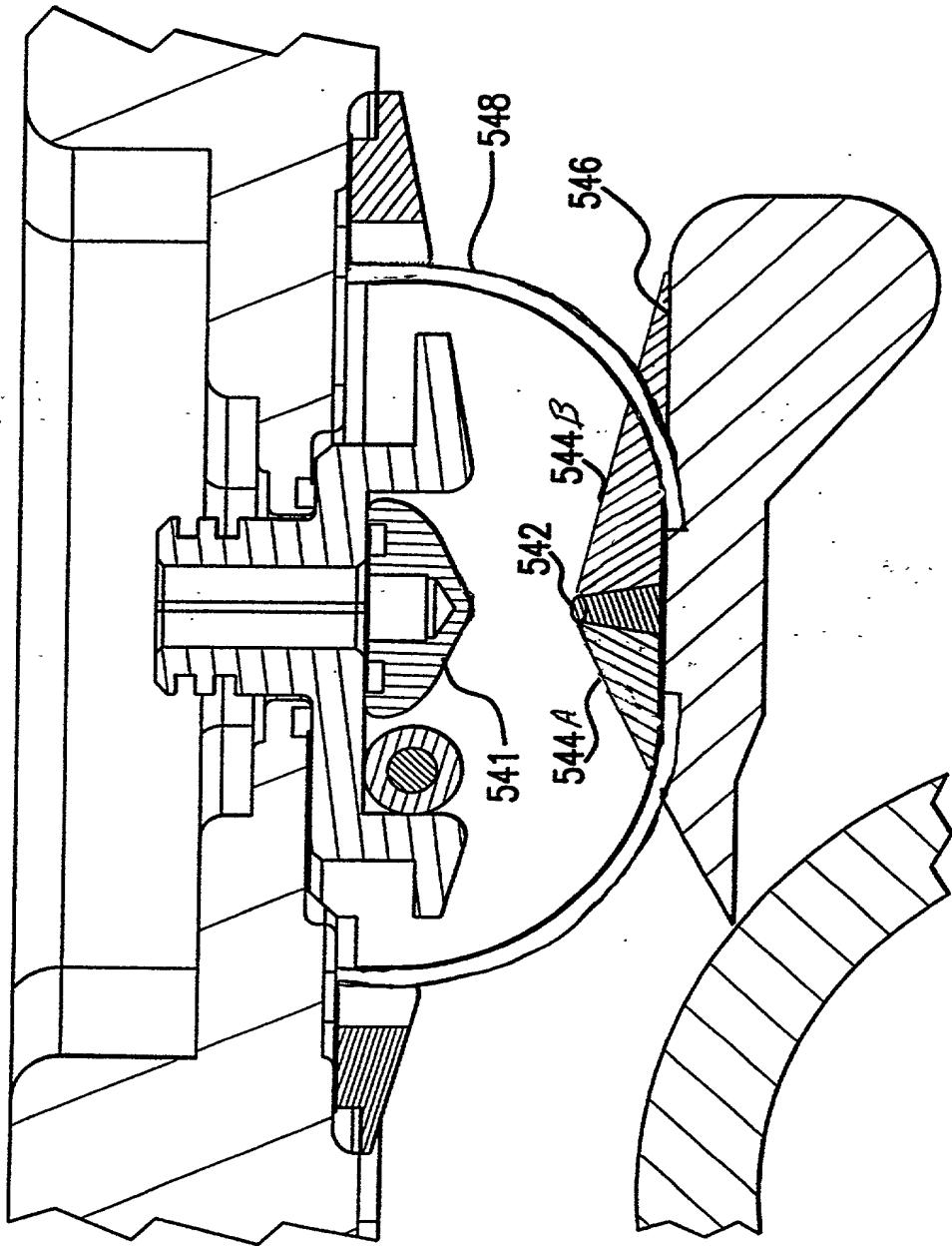


FIG. 13A (2)



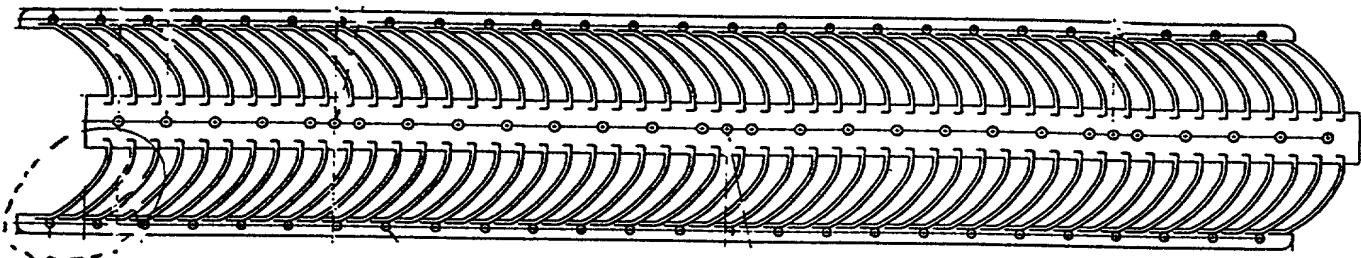
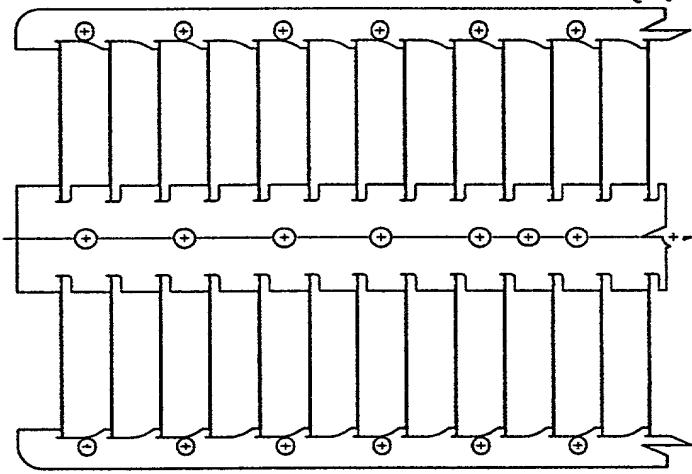
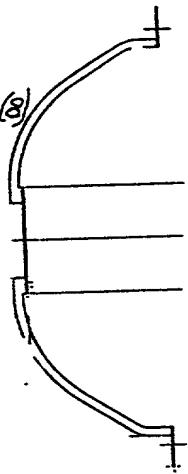


FIG. 13A(3)

FIG. 13A(7)

FIG. 13A(8)



4 000 200 300 400 500 = 4 000 100

FIG. 13A

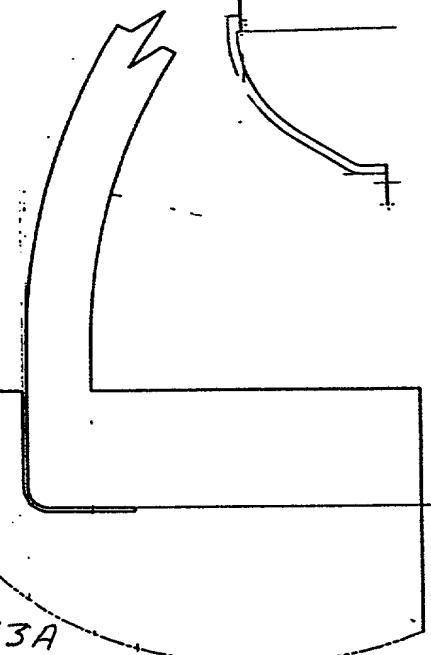


FIG. 13A(5)

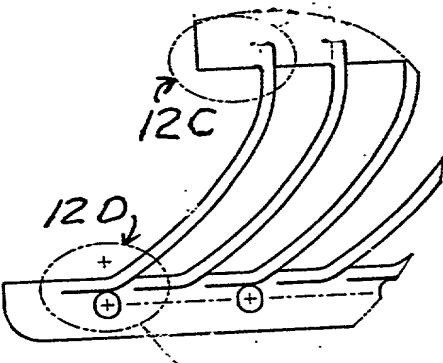
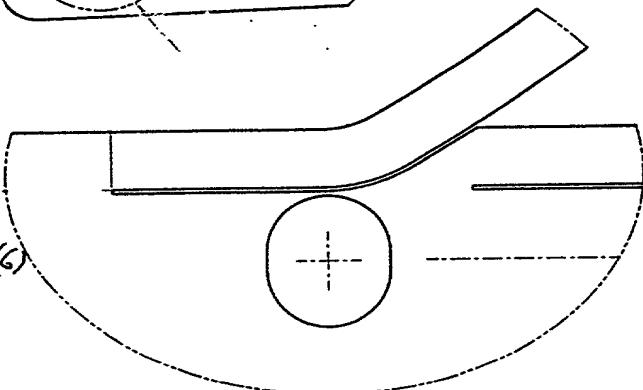
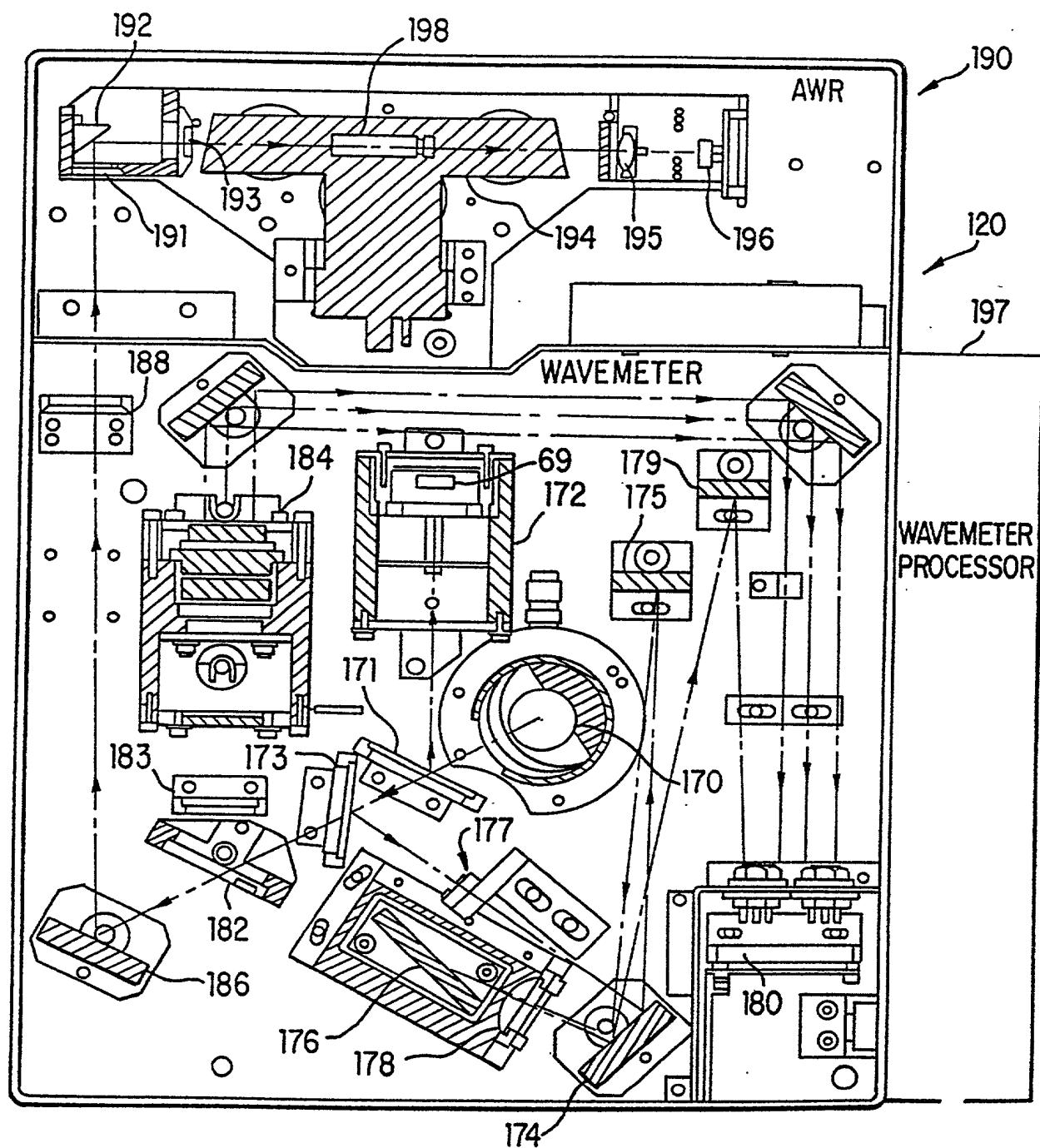


FIG. 13A4

FIG. 13A(6)





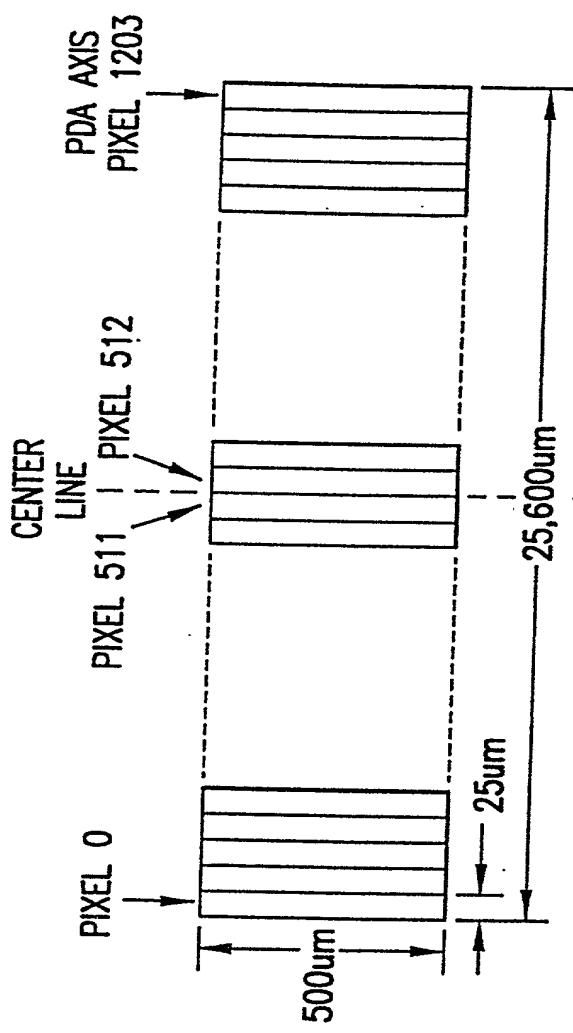


FIG. 14A

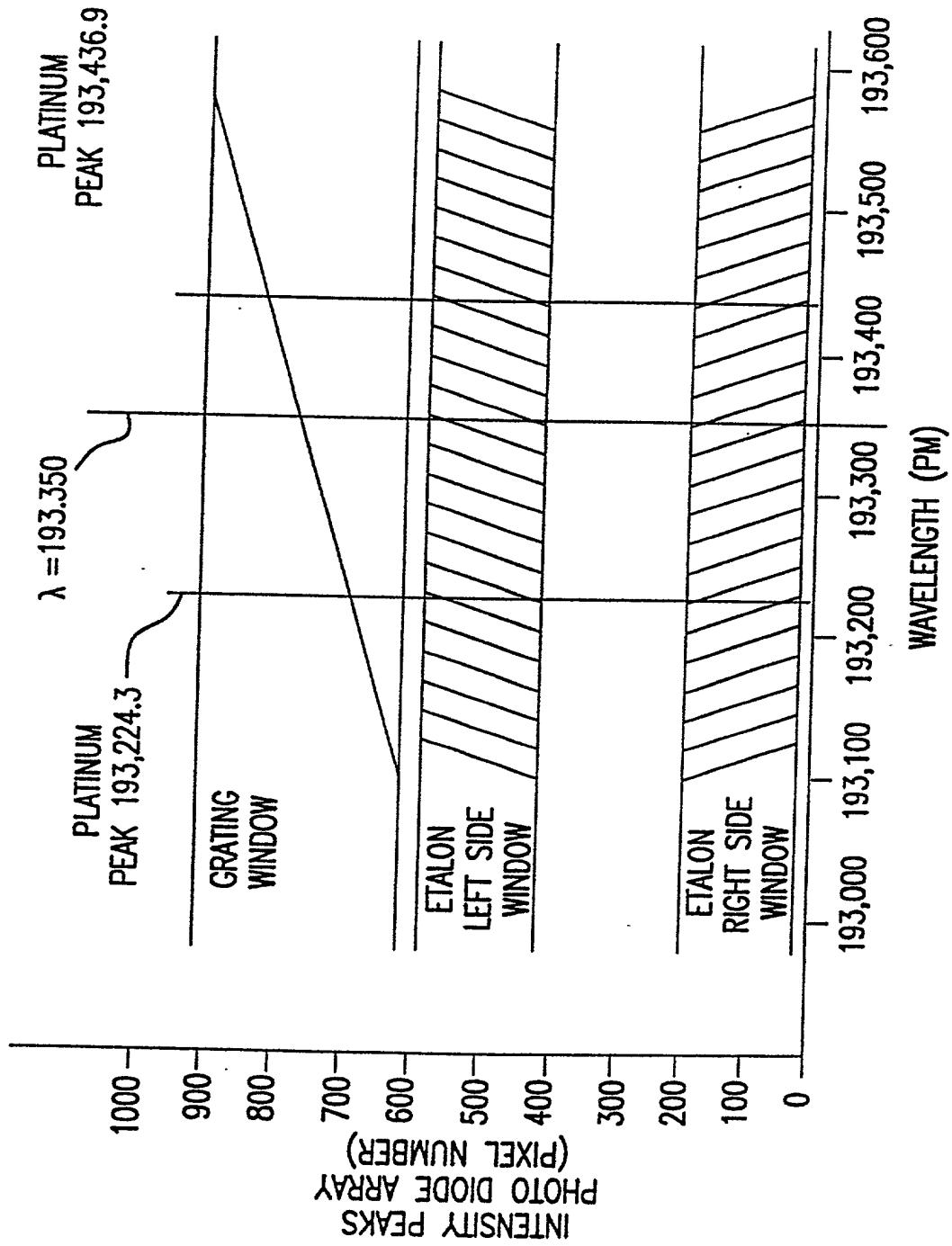


FIG. 14B

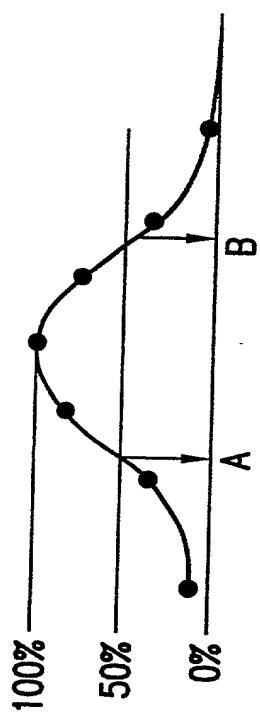


FIG. 14C

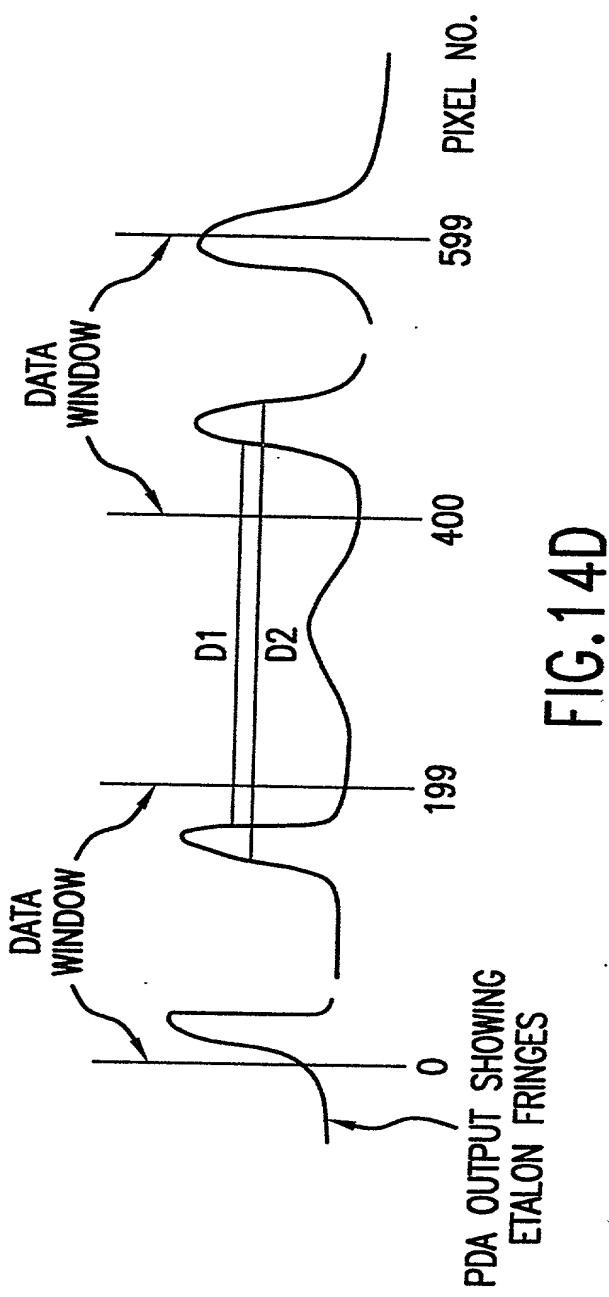
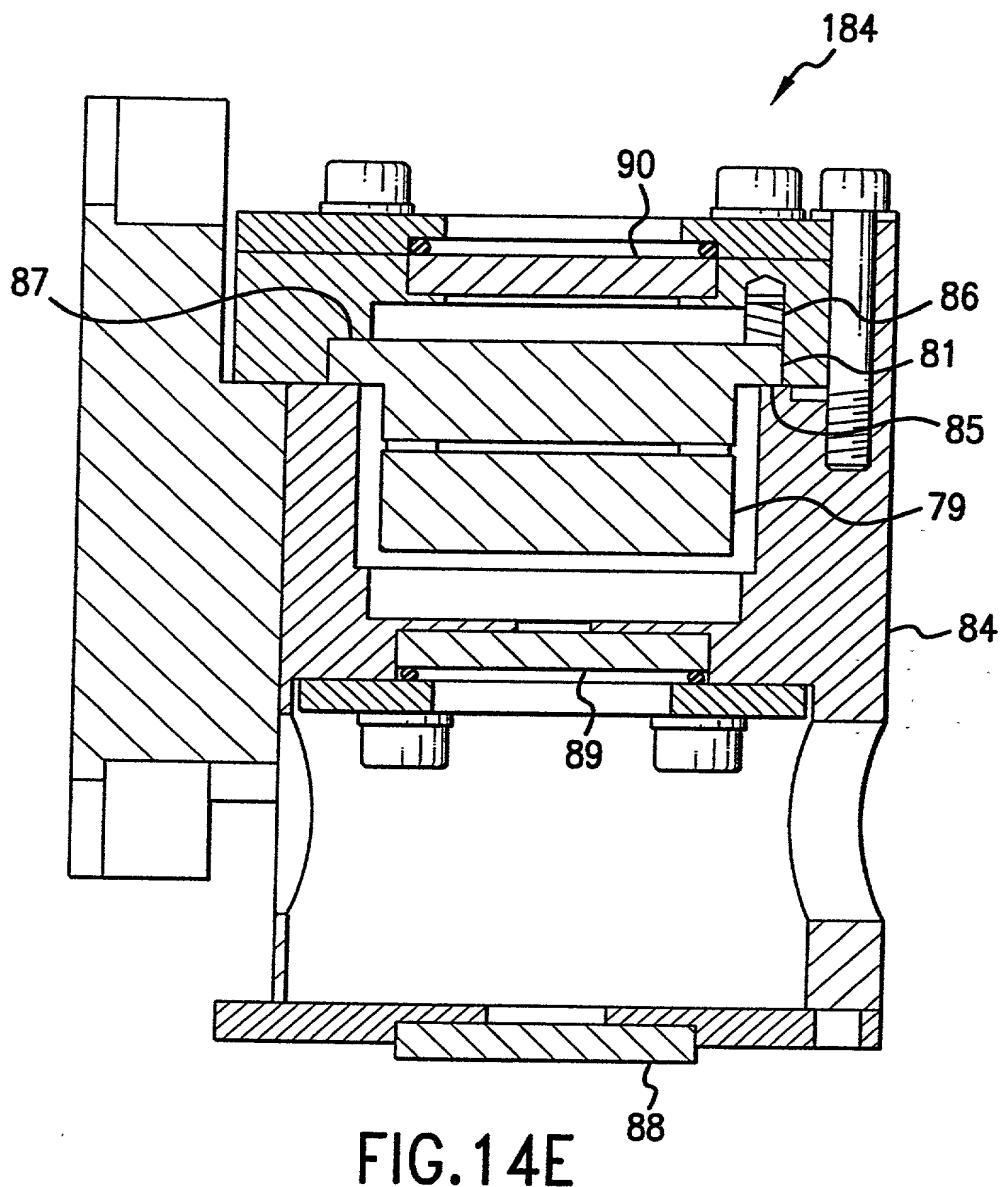


FIG. 14D



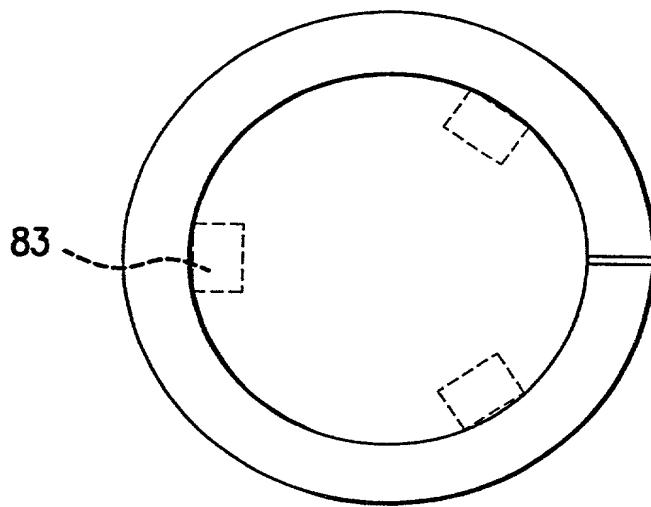


FIG. 14F

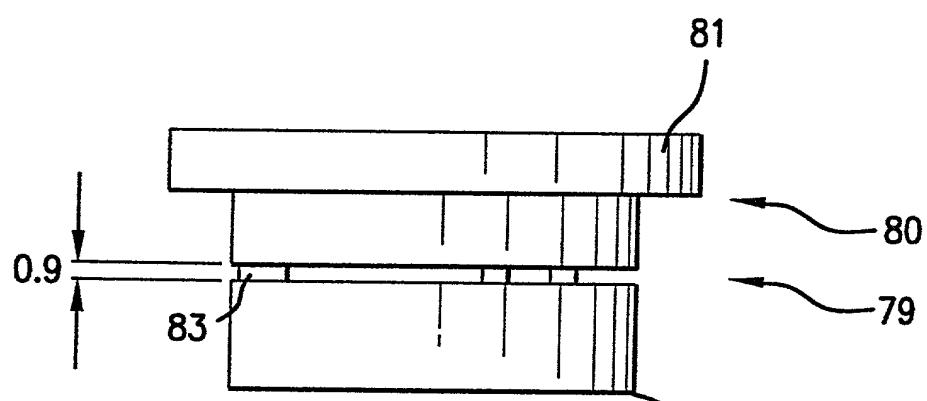


FIG. 14G

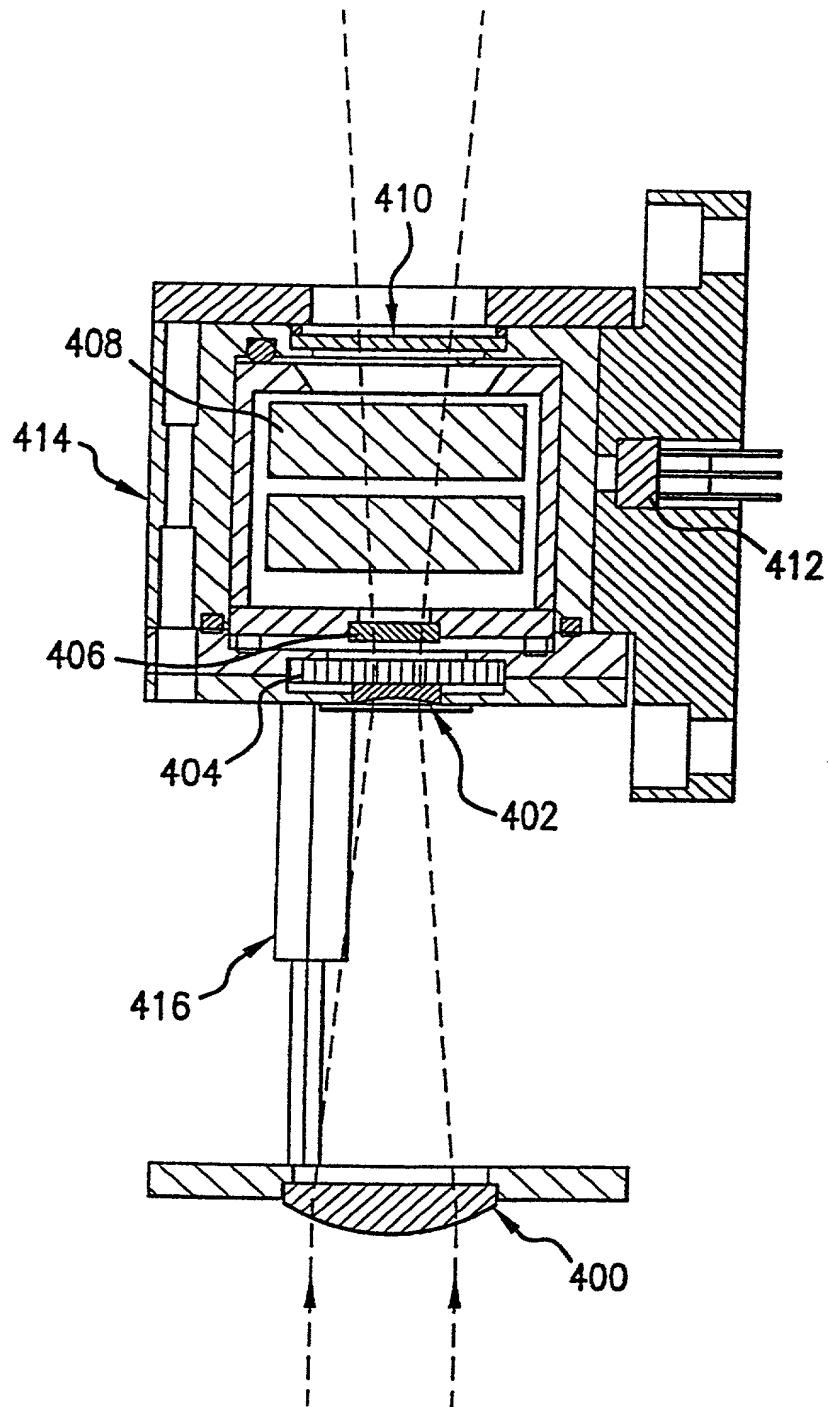


FIG.14H

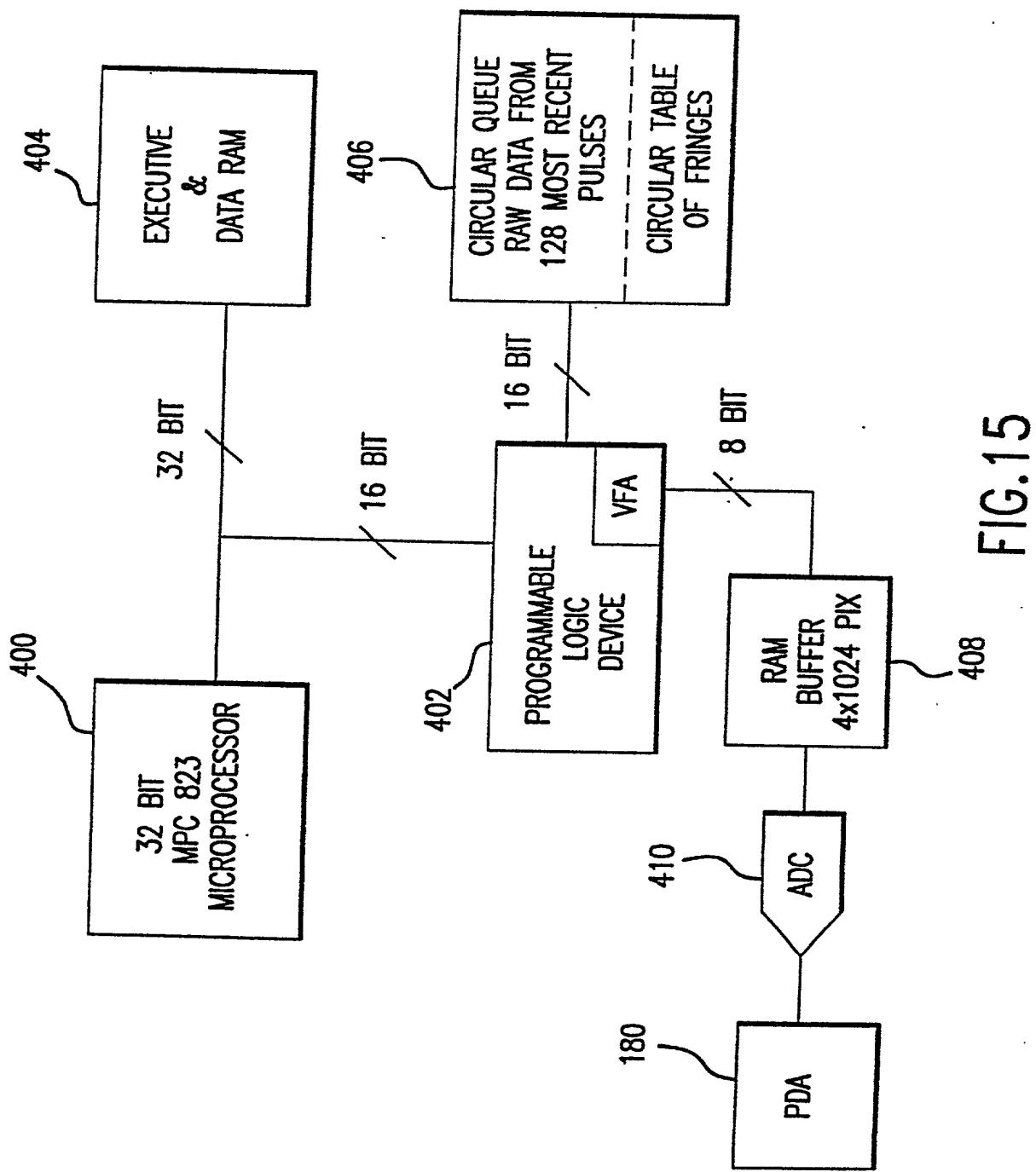


FIG.15

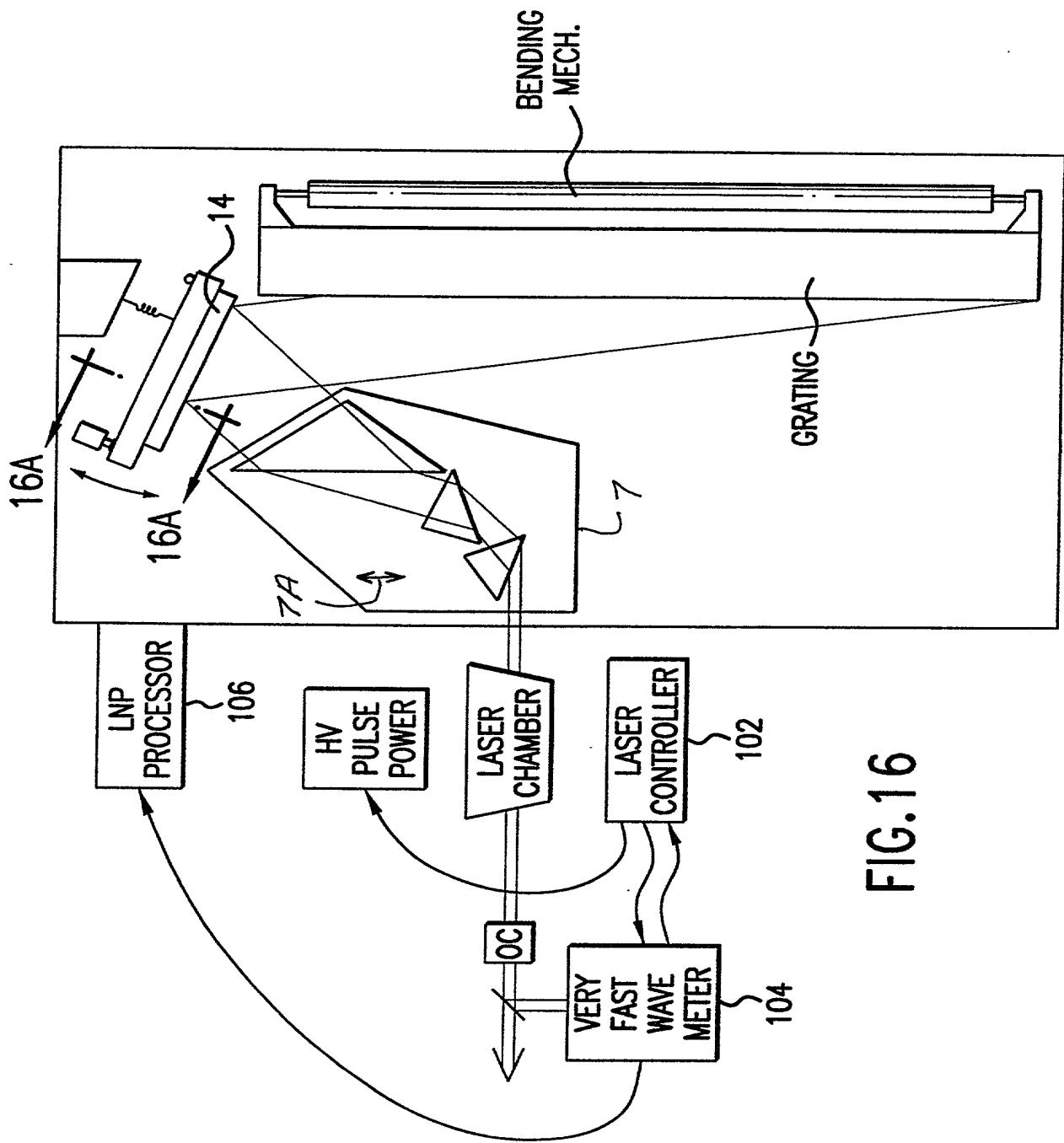


FIG. 16

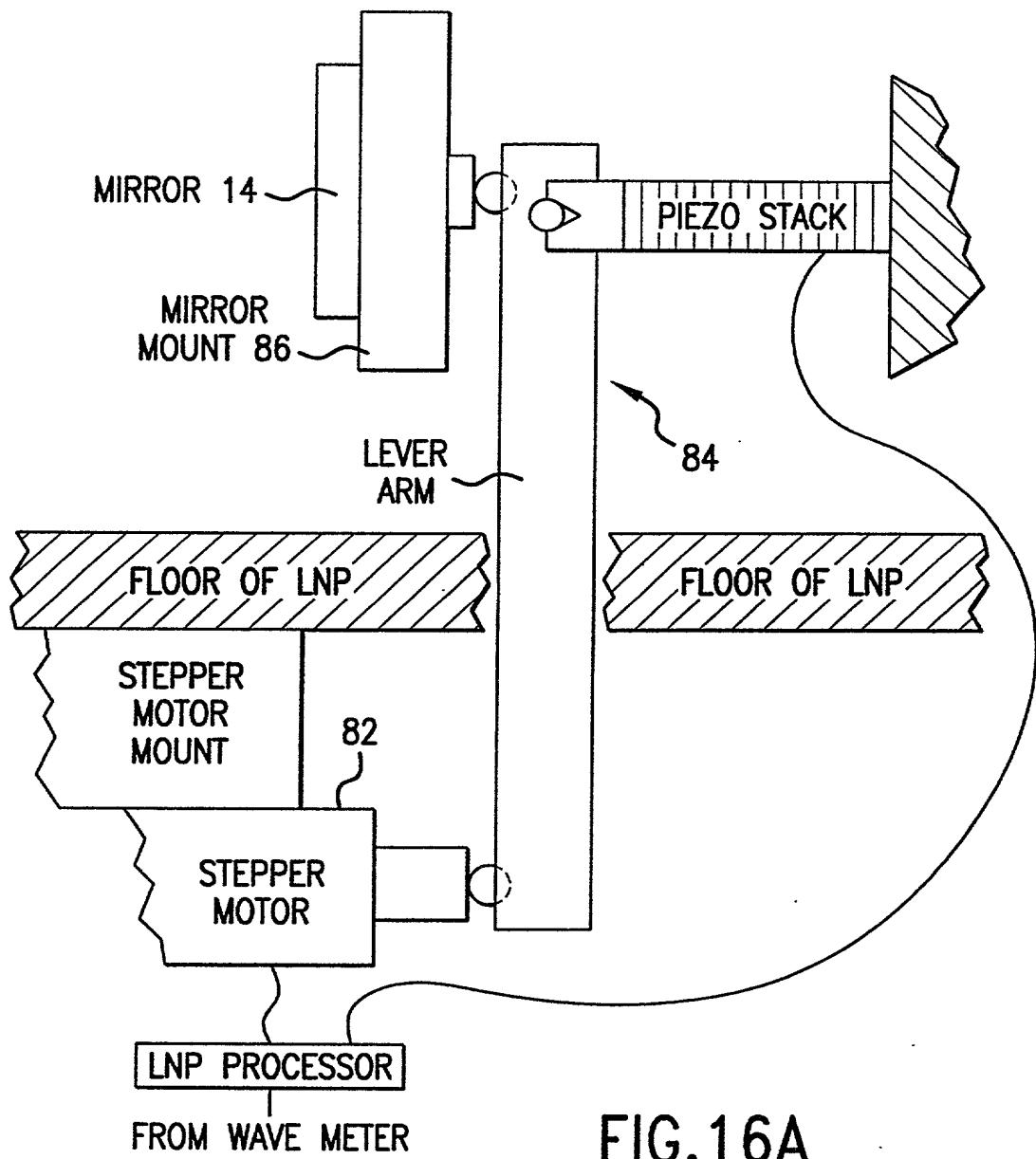


FIG.16A

FIG. 16B1

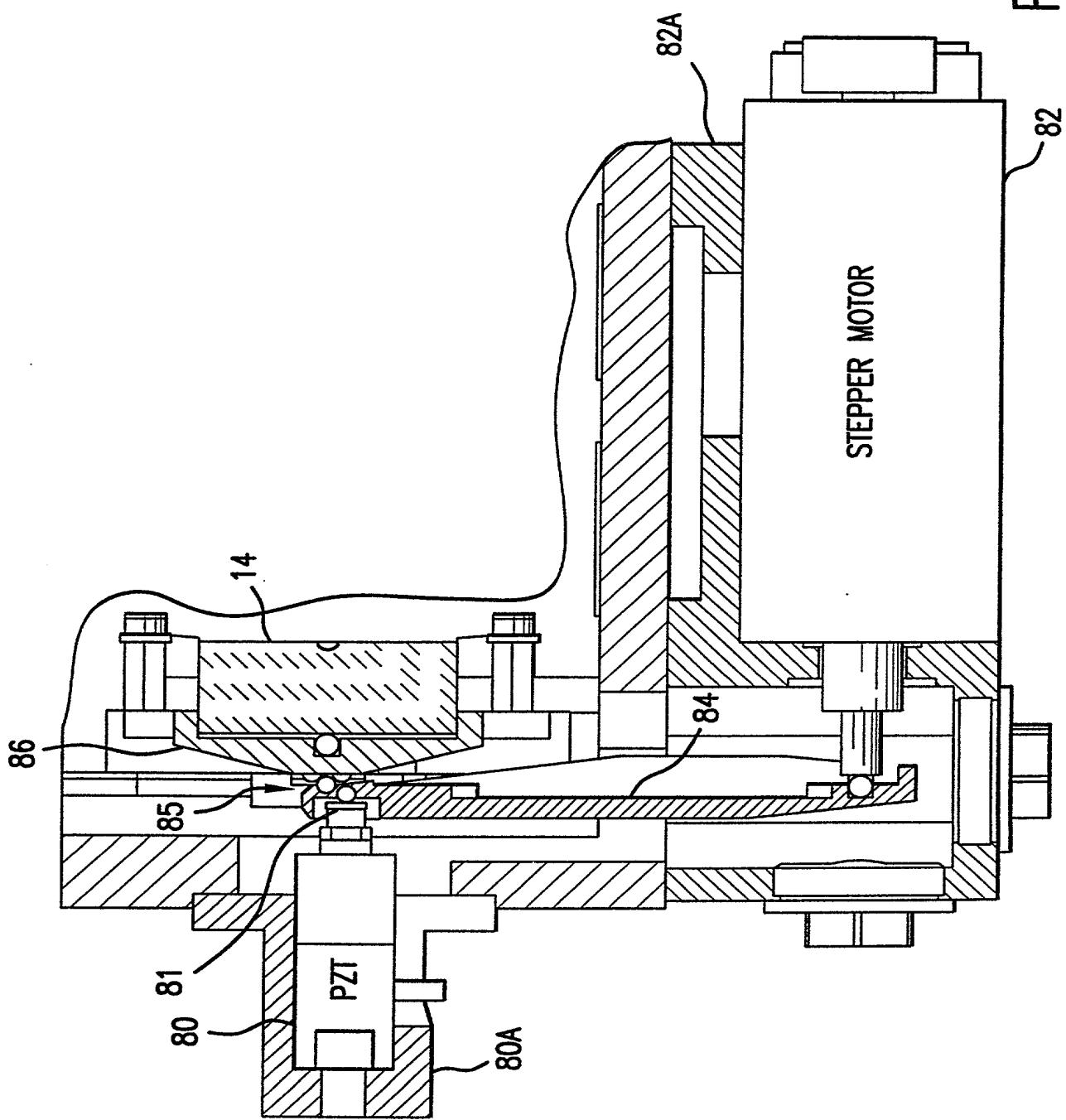
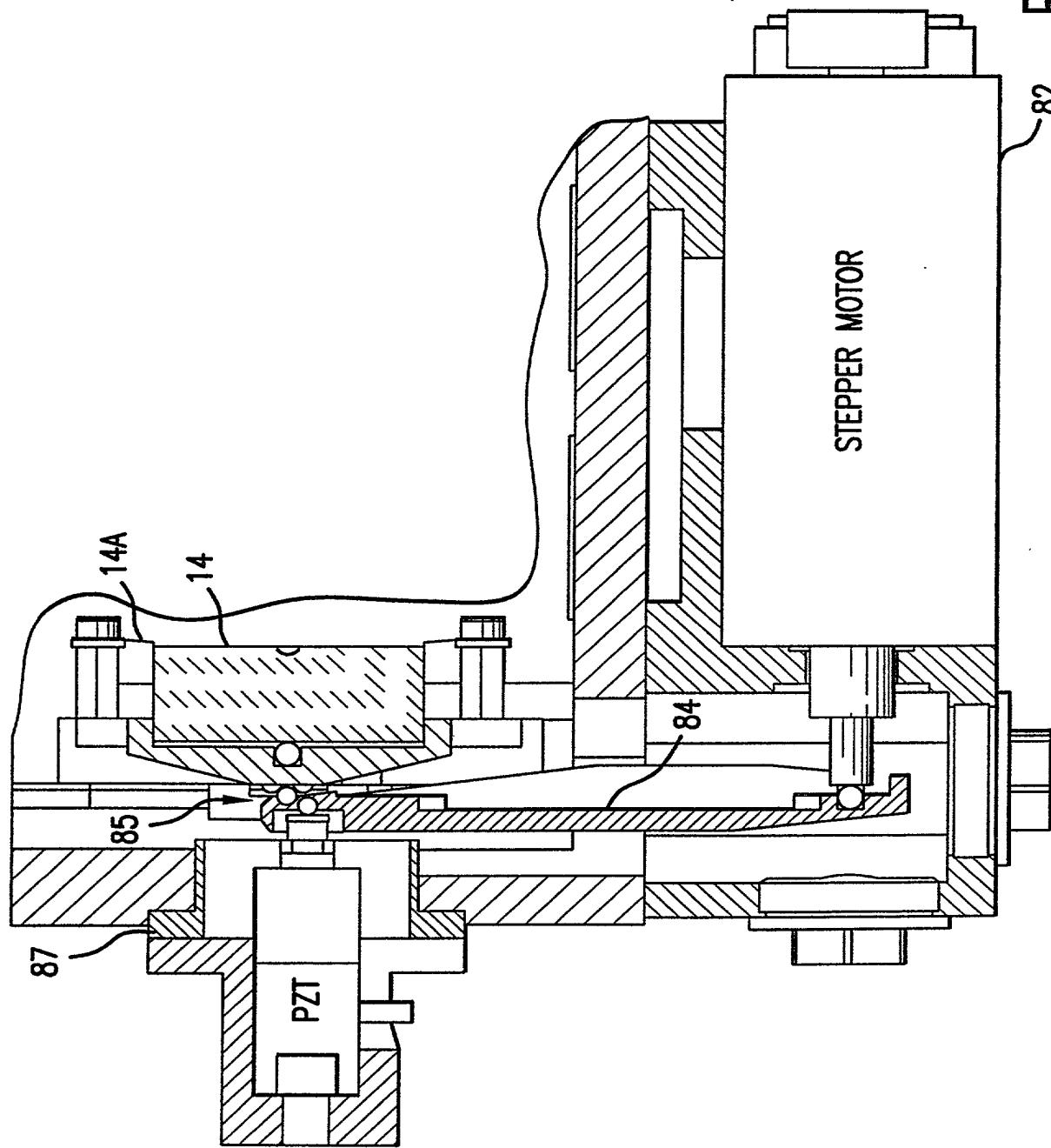


FIG. 16B2

82



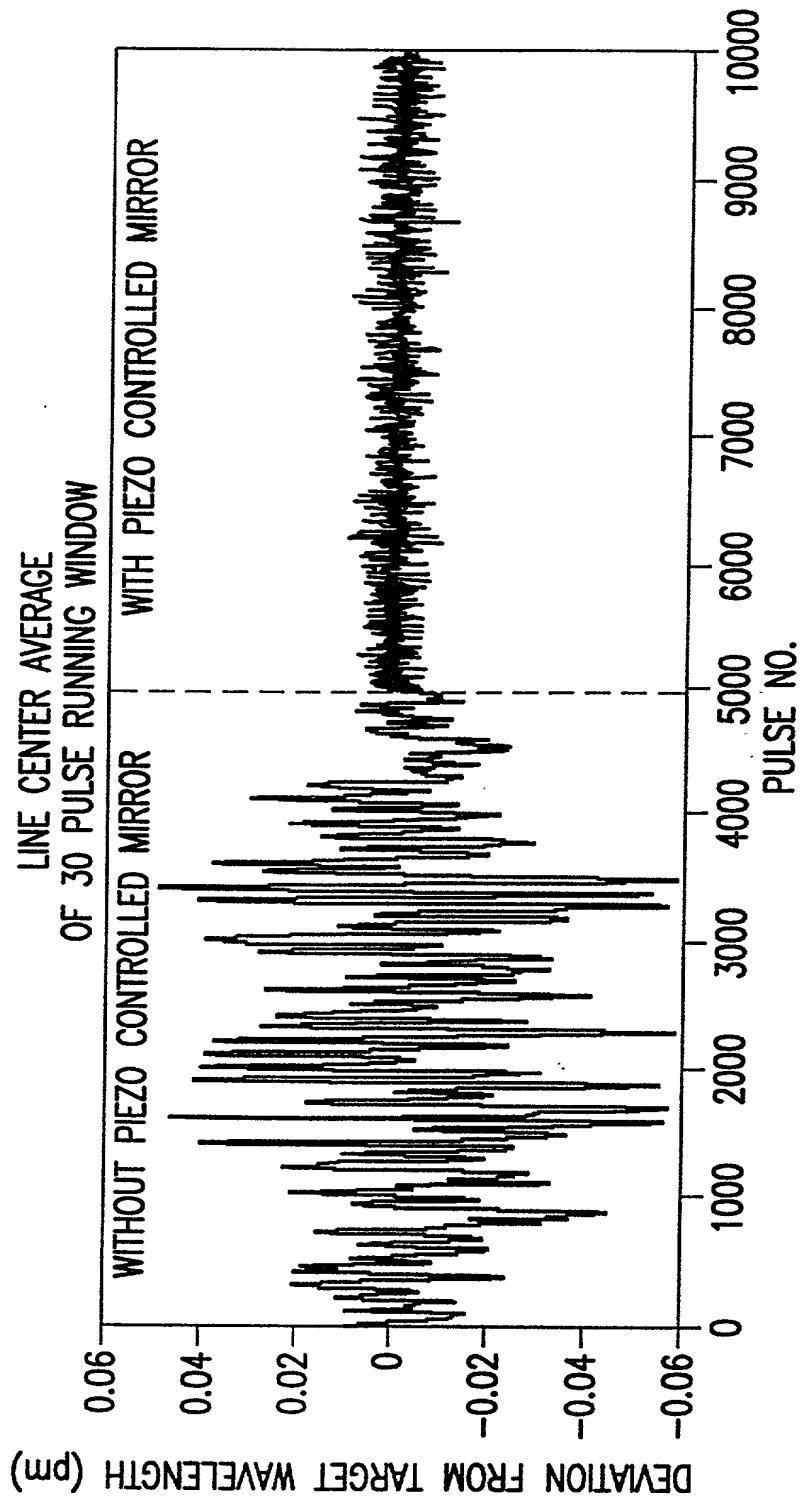


FIG. 16C

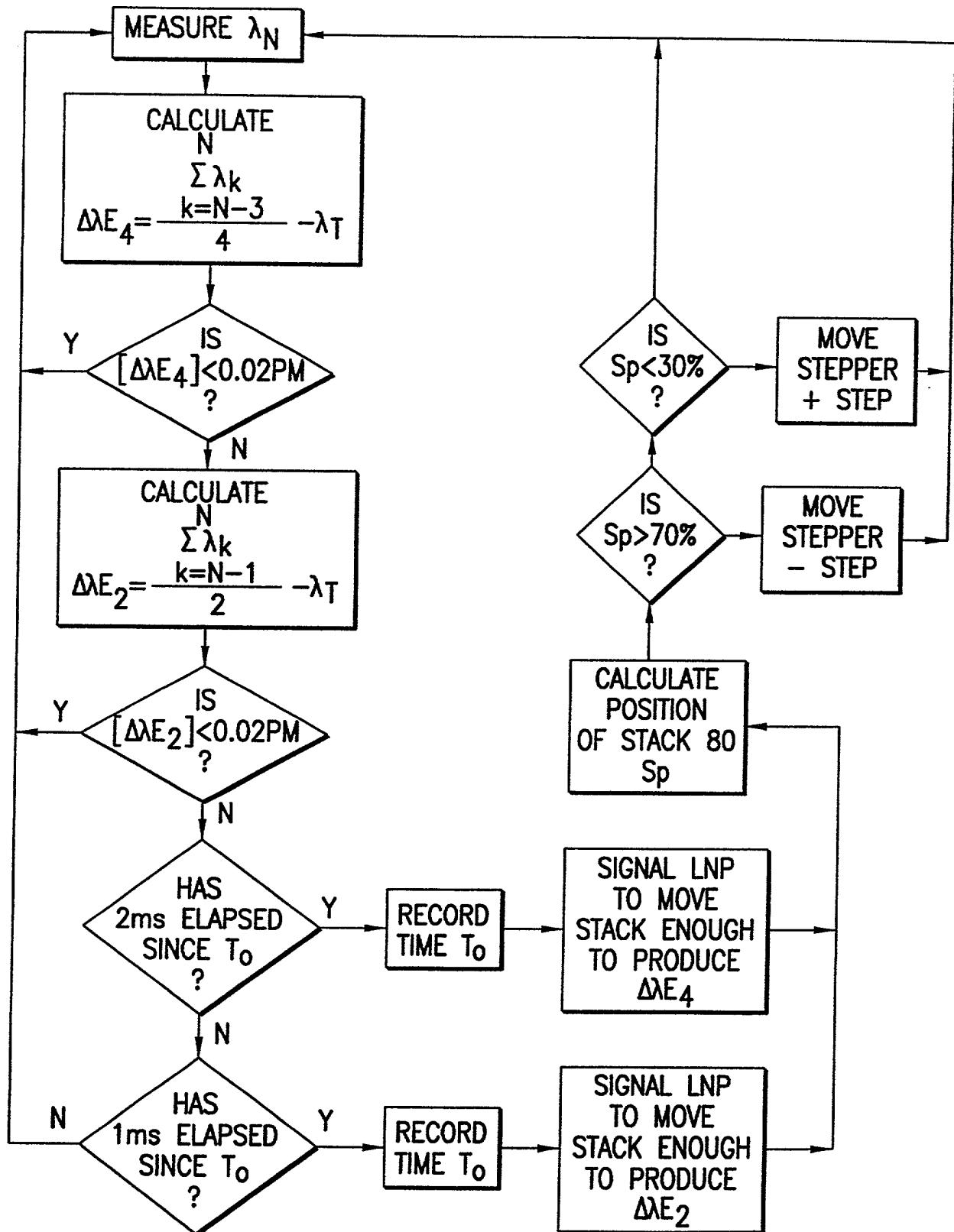


FIG.16D

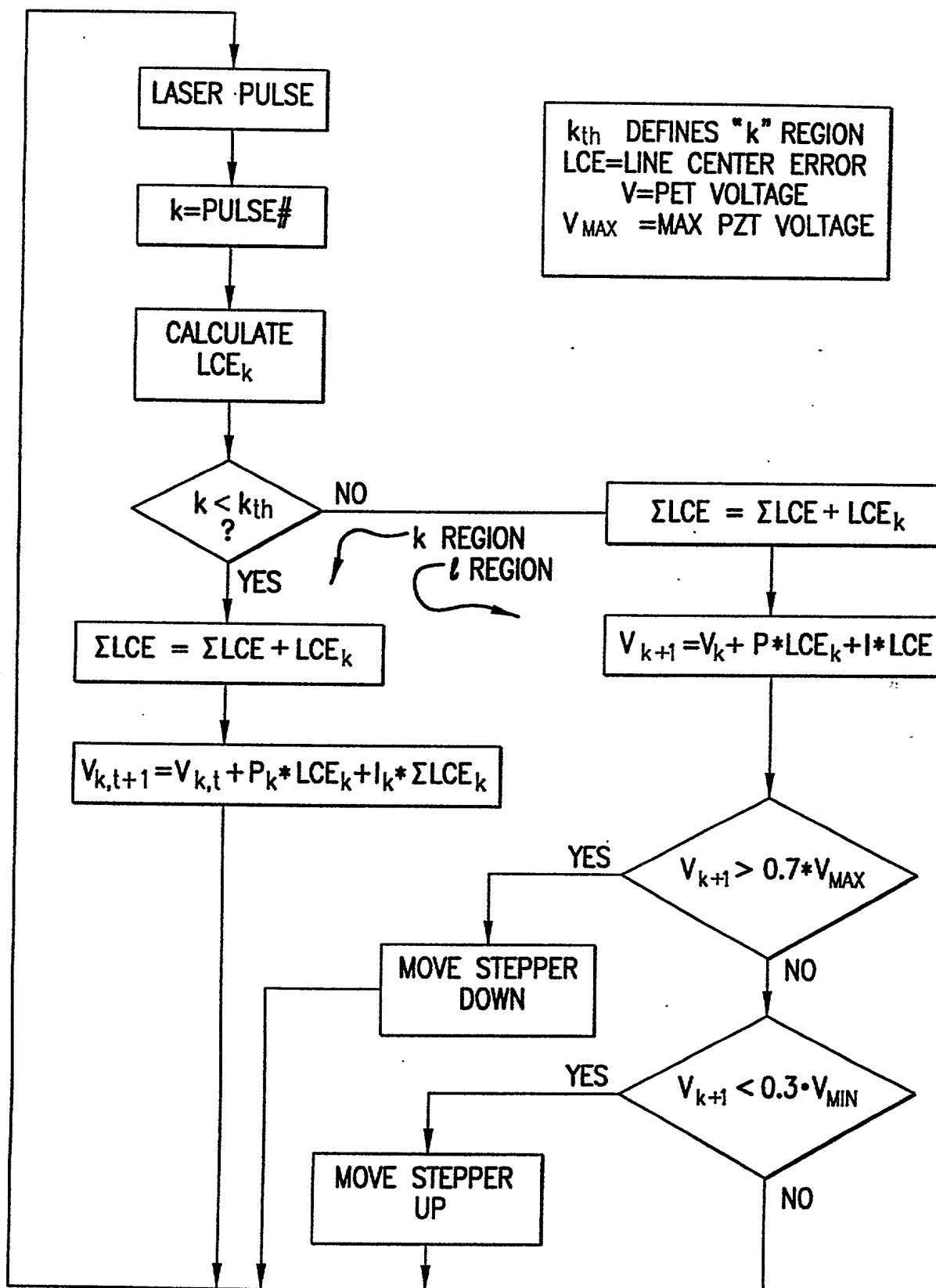


FIG.16E

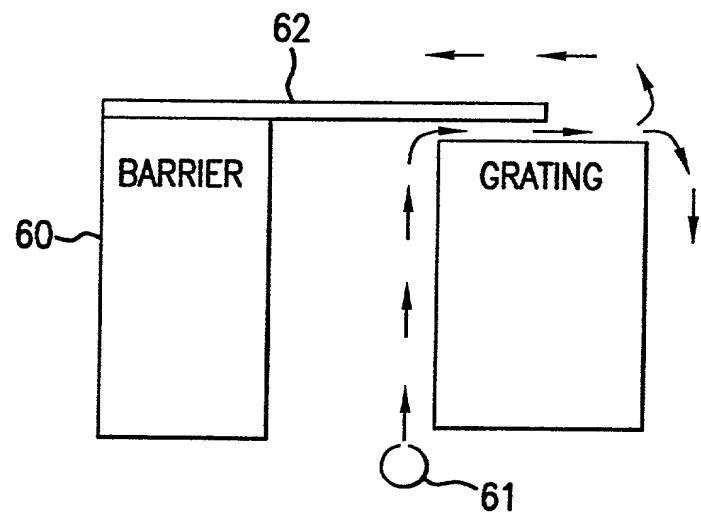


FIG.17

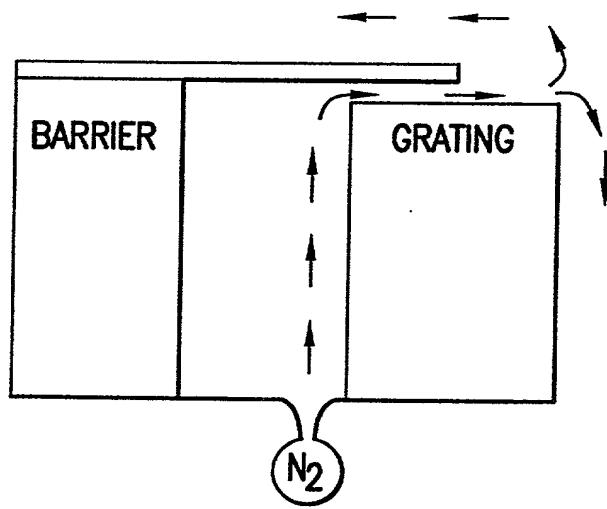


FIG.17A

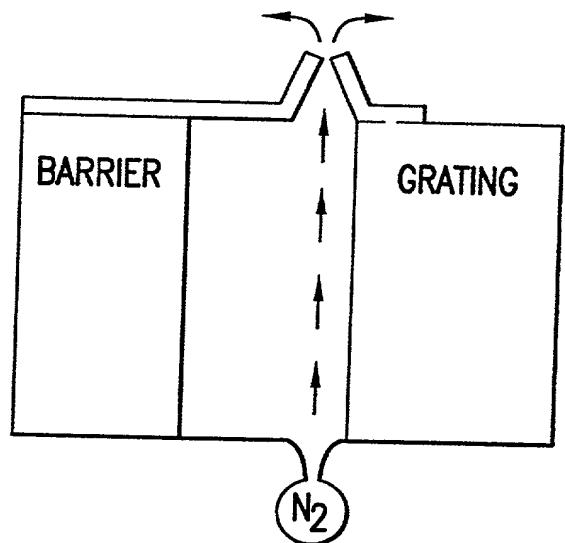


FIG.17B

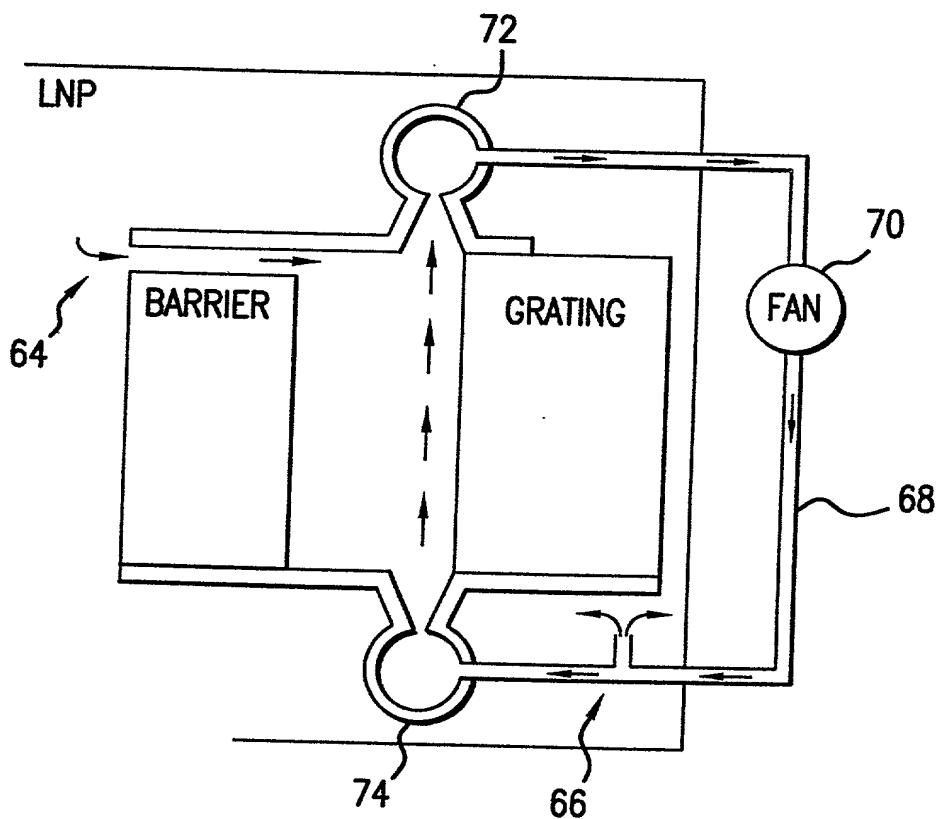


FIG.17C

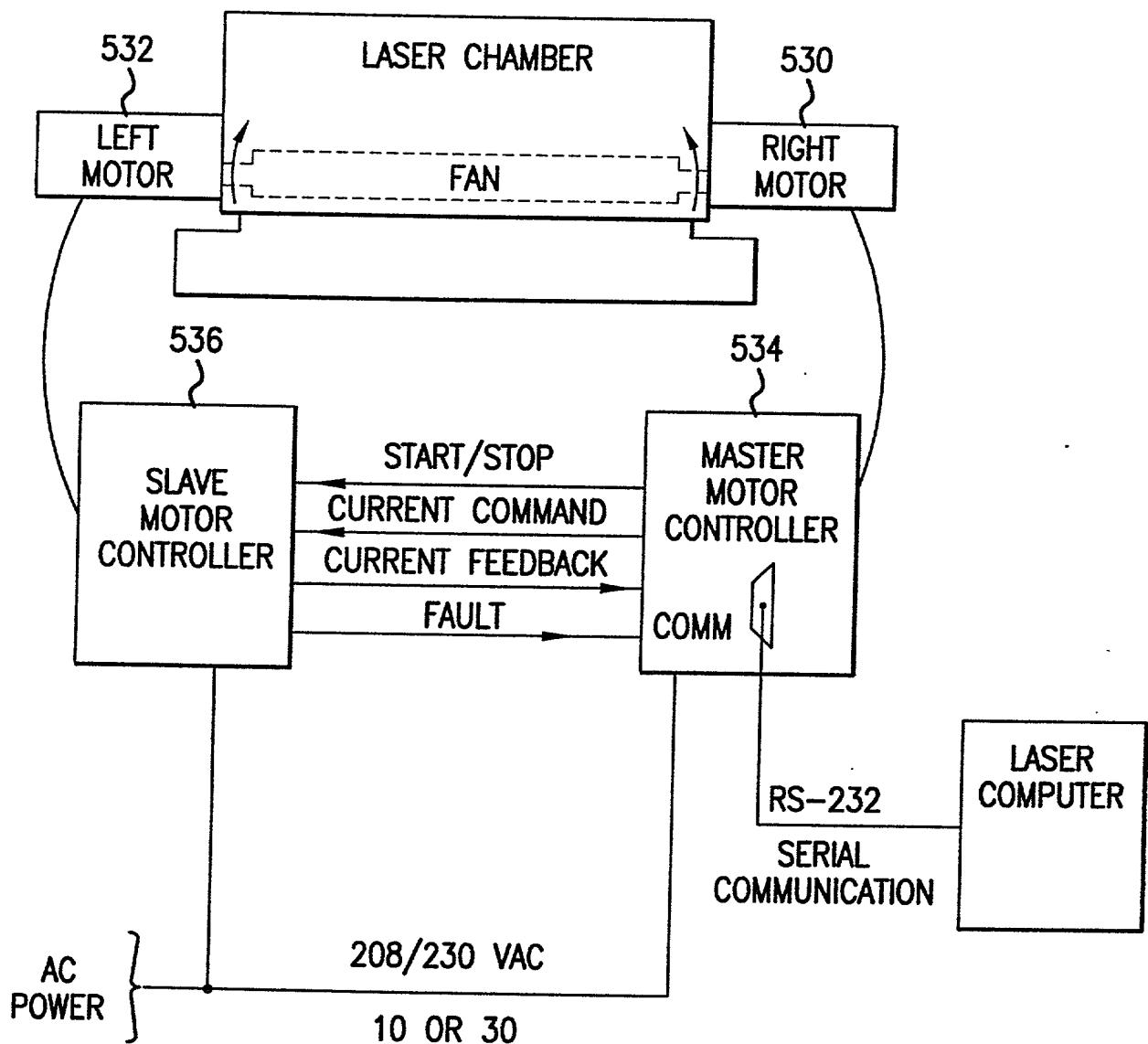


FIG. 18

W L G H C D F E = 20 22 25 28 30 32 35 38 40 42

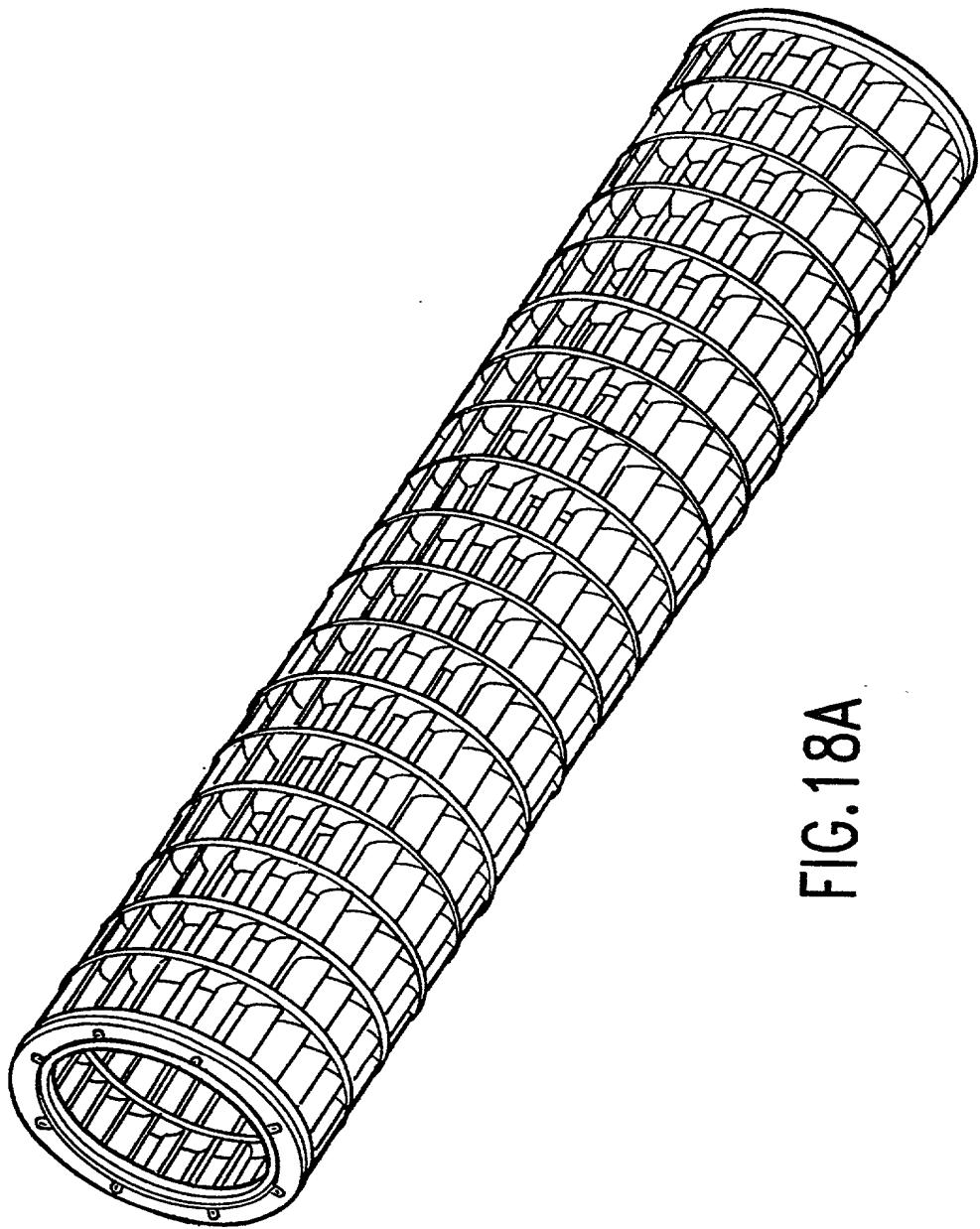


FIG. 18A

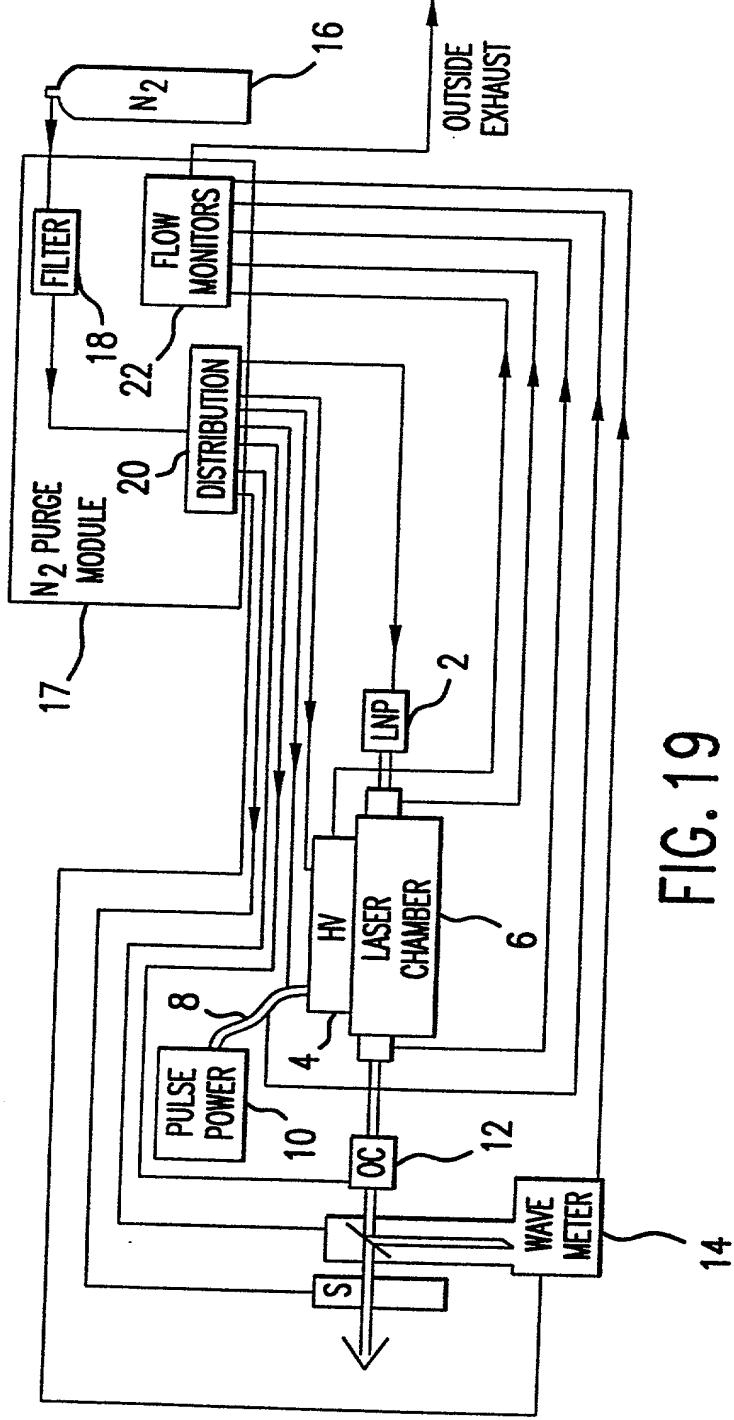


FIG. 19

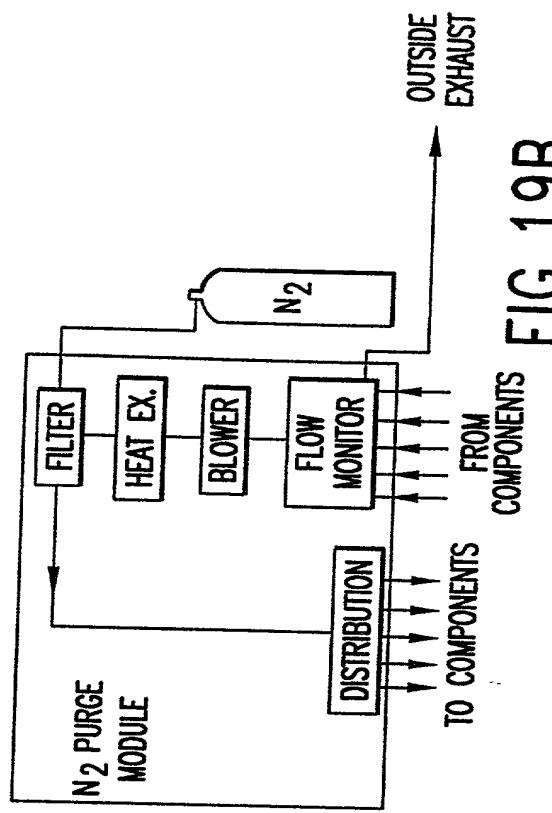


FIG. 19B

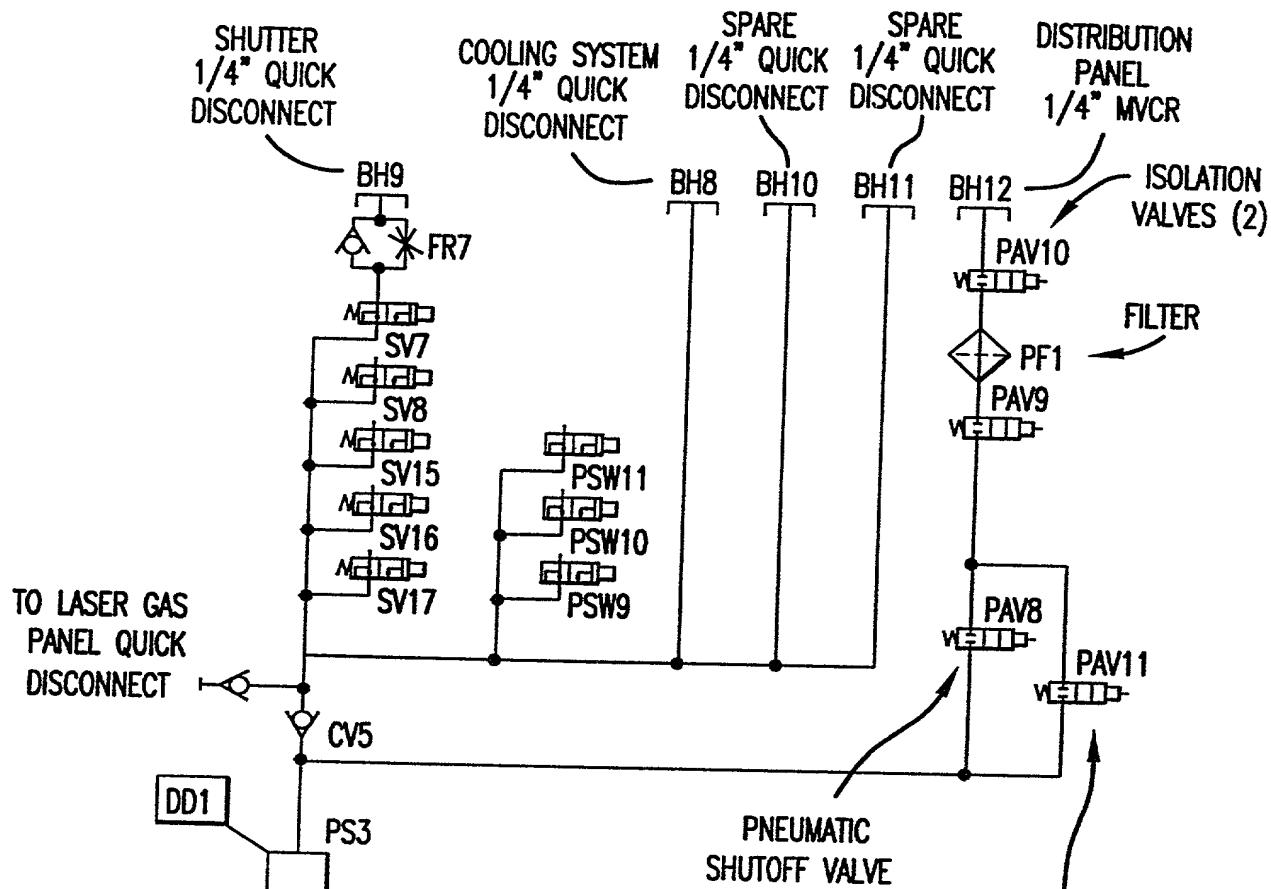


FIG.19A

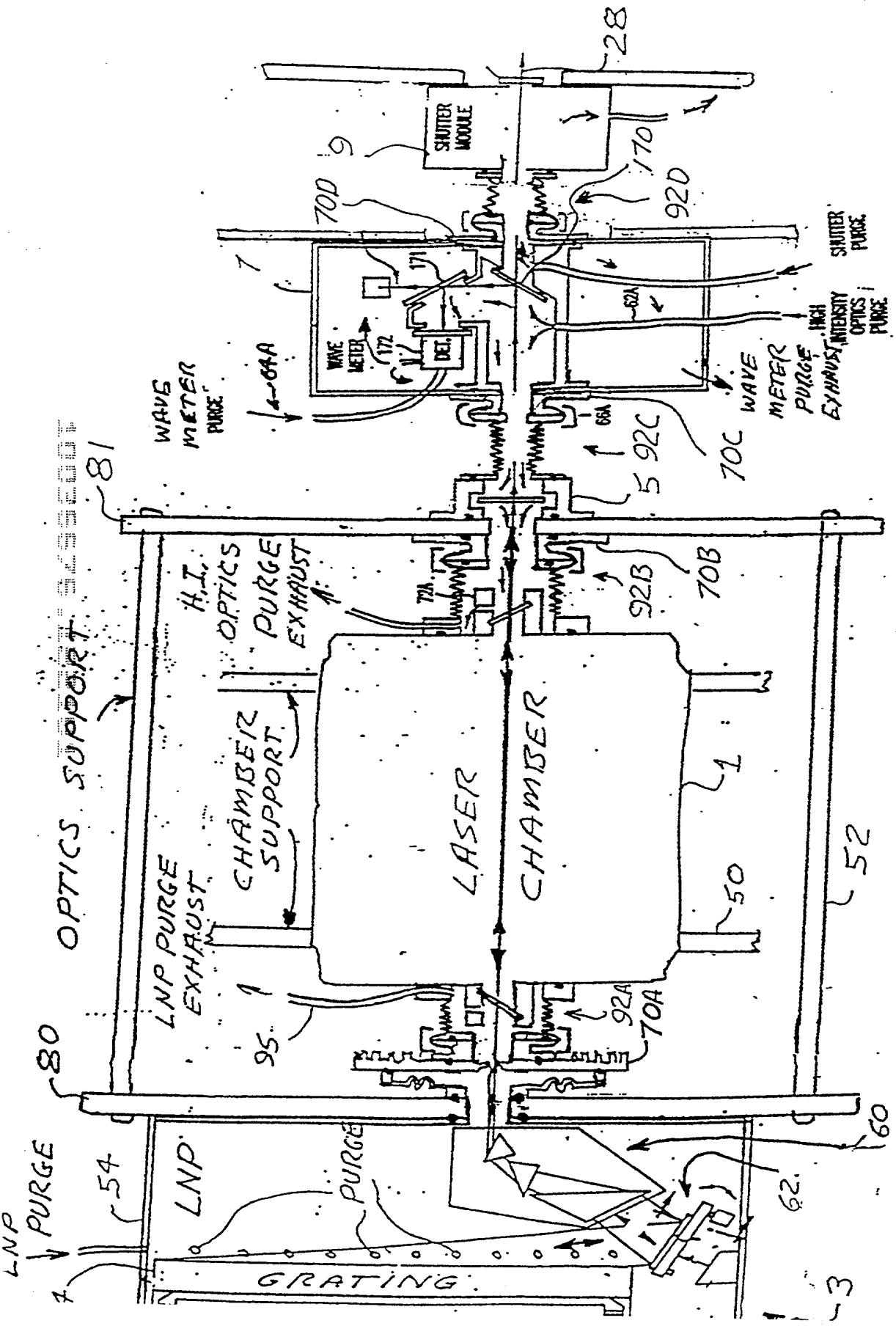
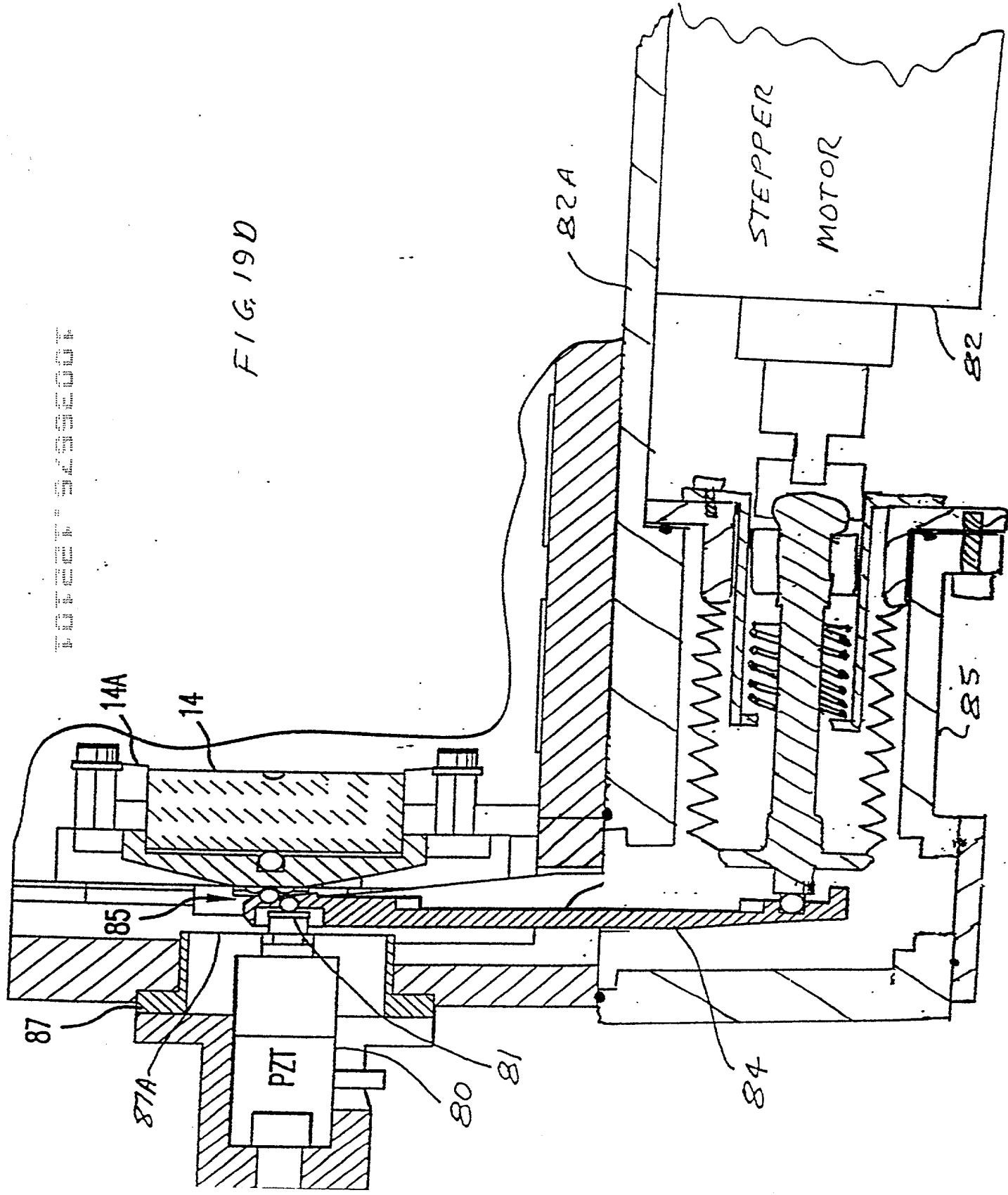


FIG. 19C



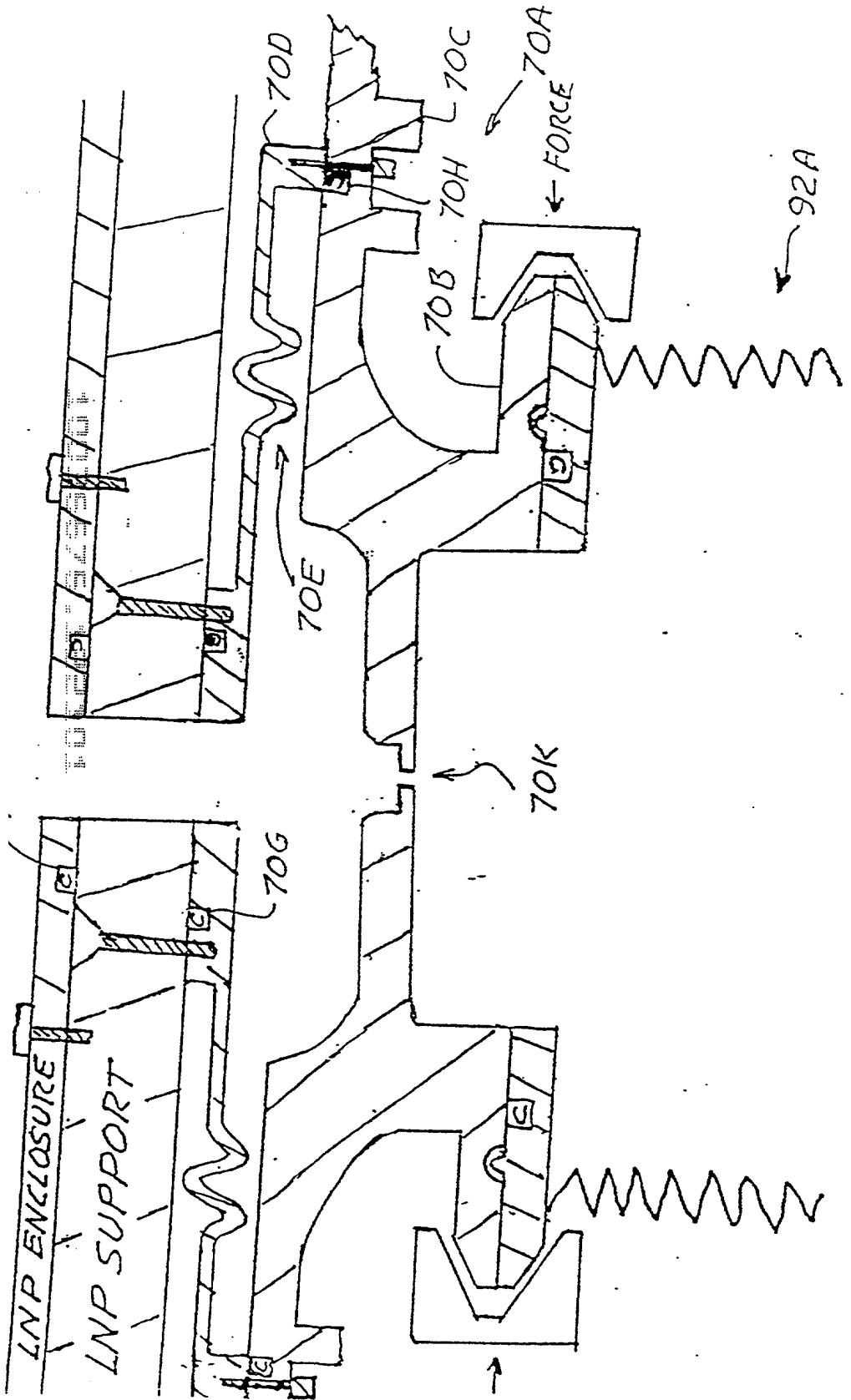


FIG. 19 E

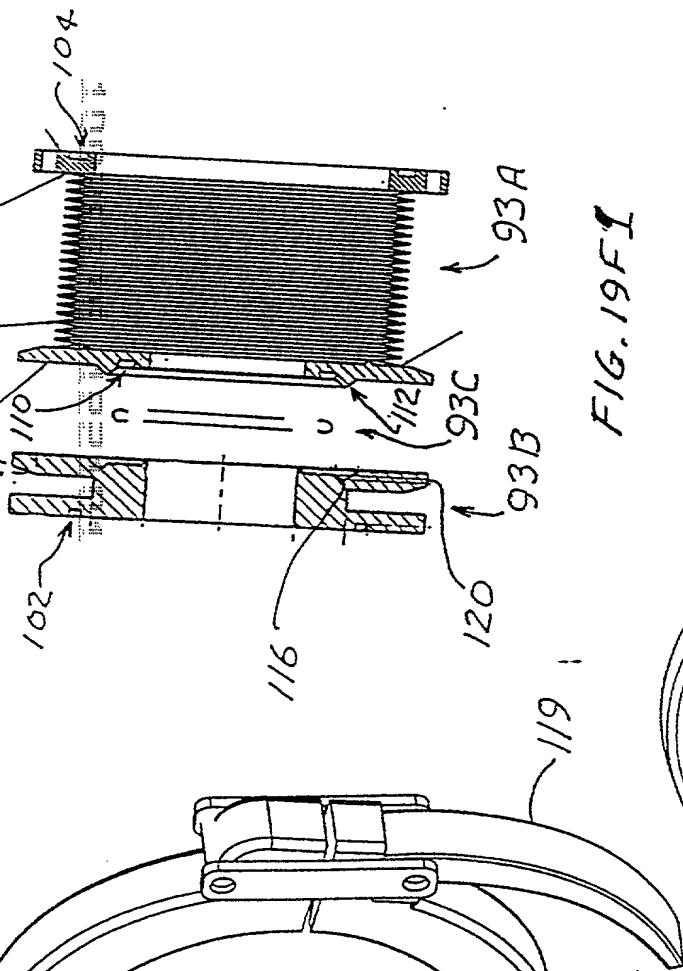


FIG. 19F1

FIG. 19F2

FIG. 19F5

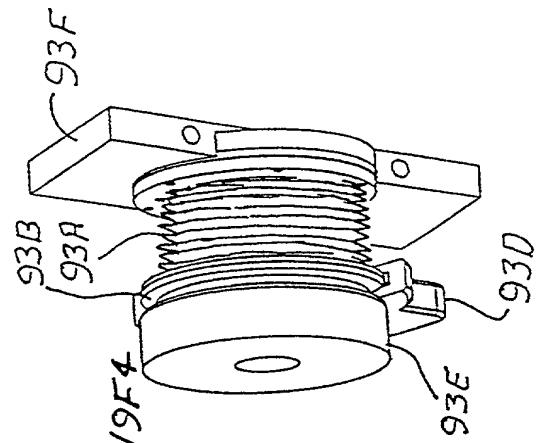


FIG. 19F4

FIG. 19F3

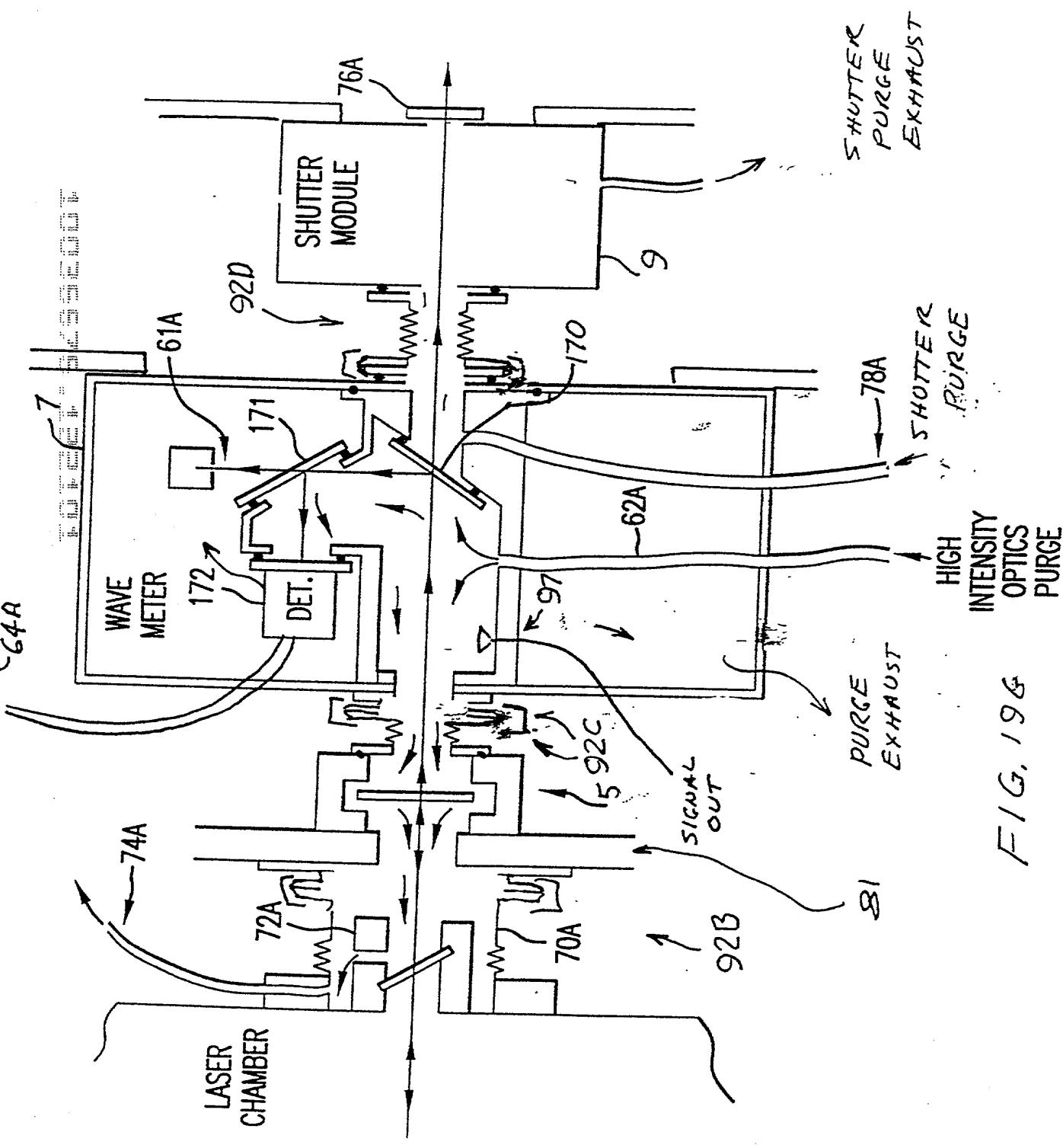


FIG. 196

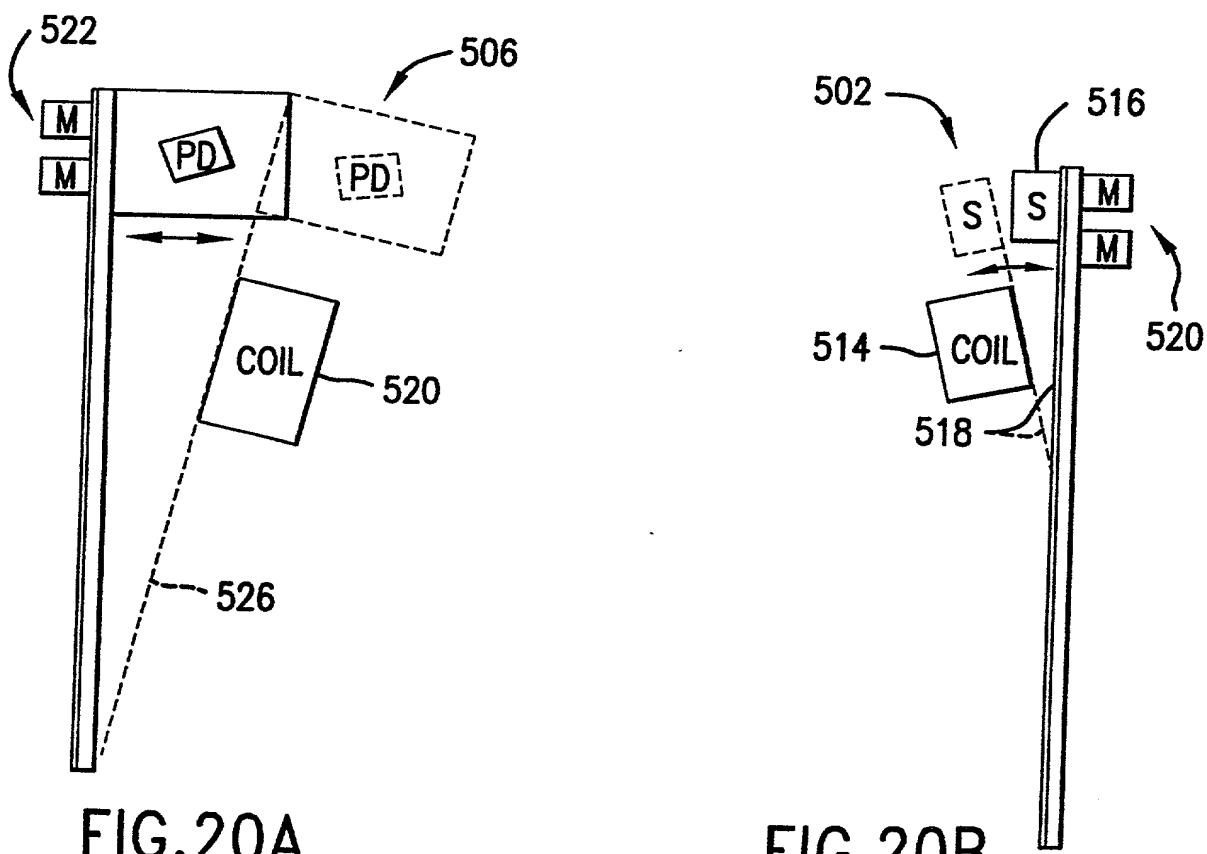
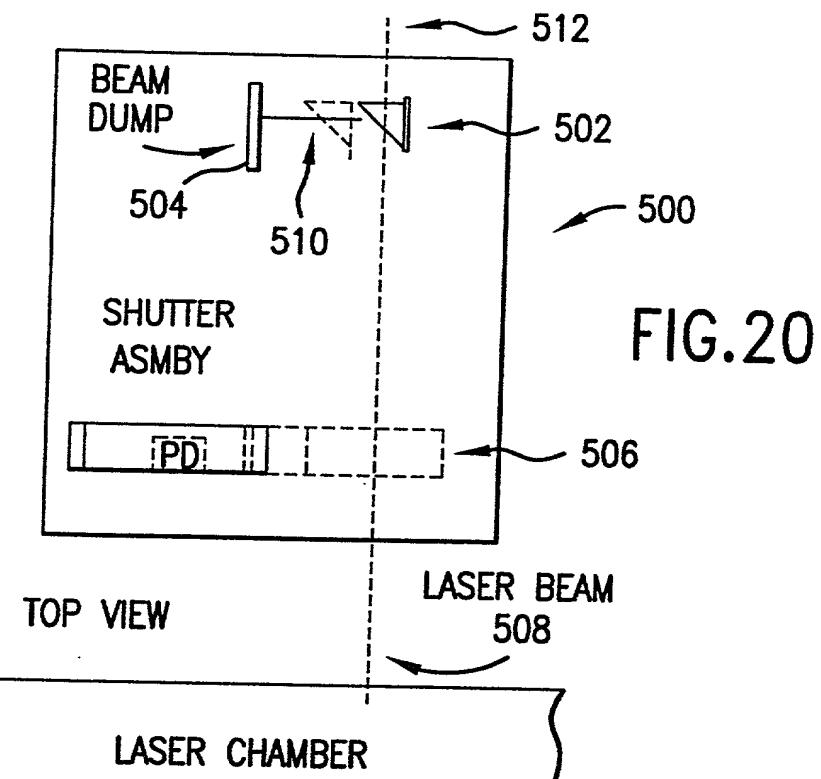


FIG.21

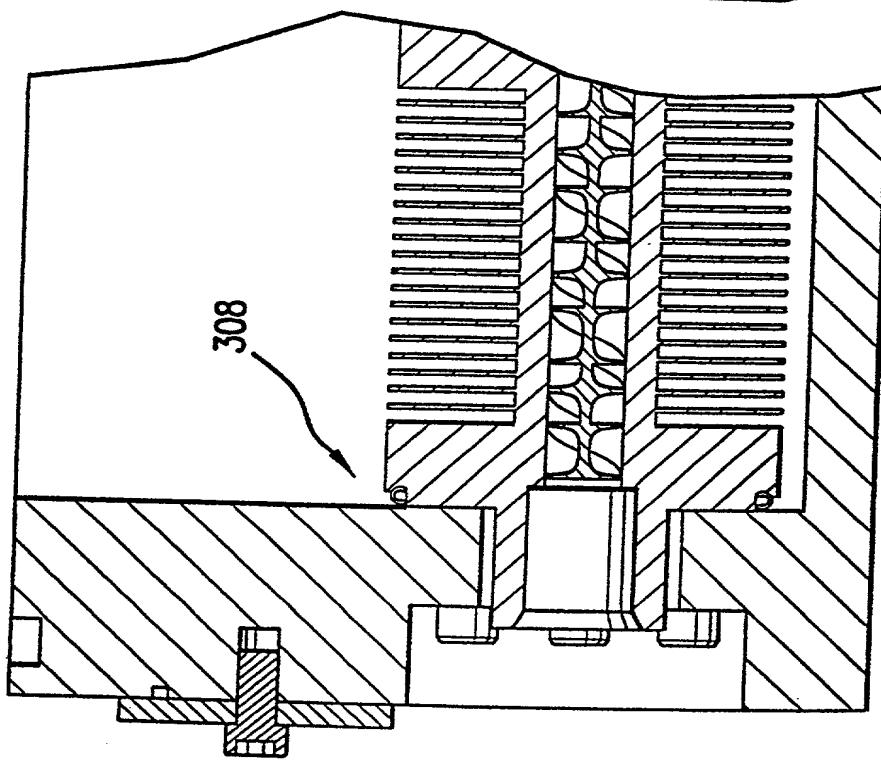
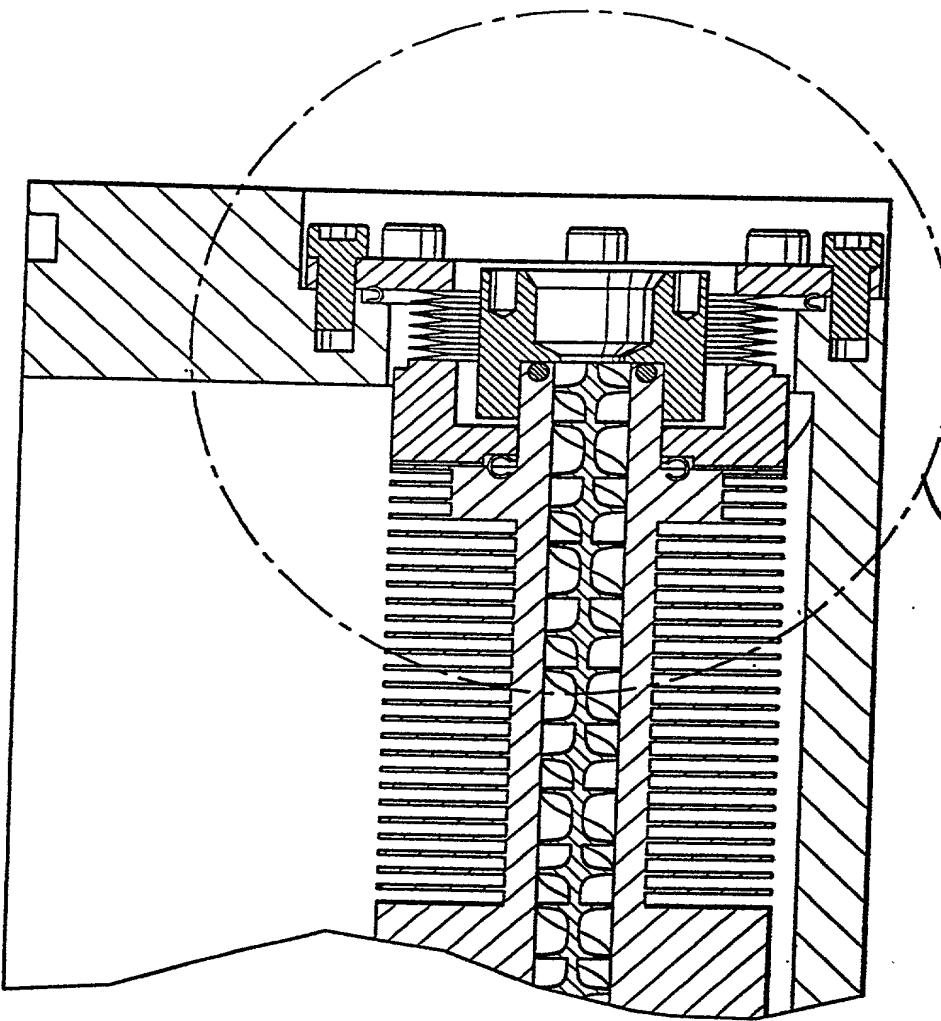


FIG.21A



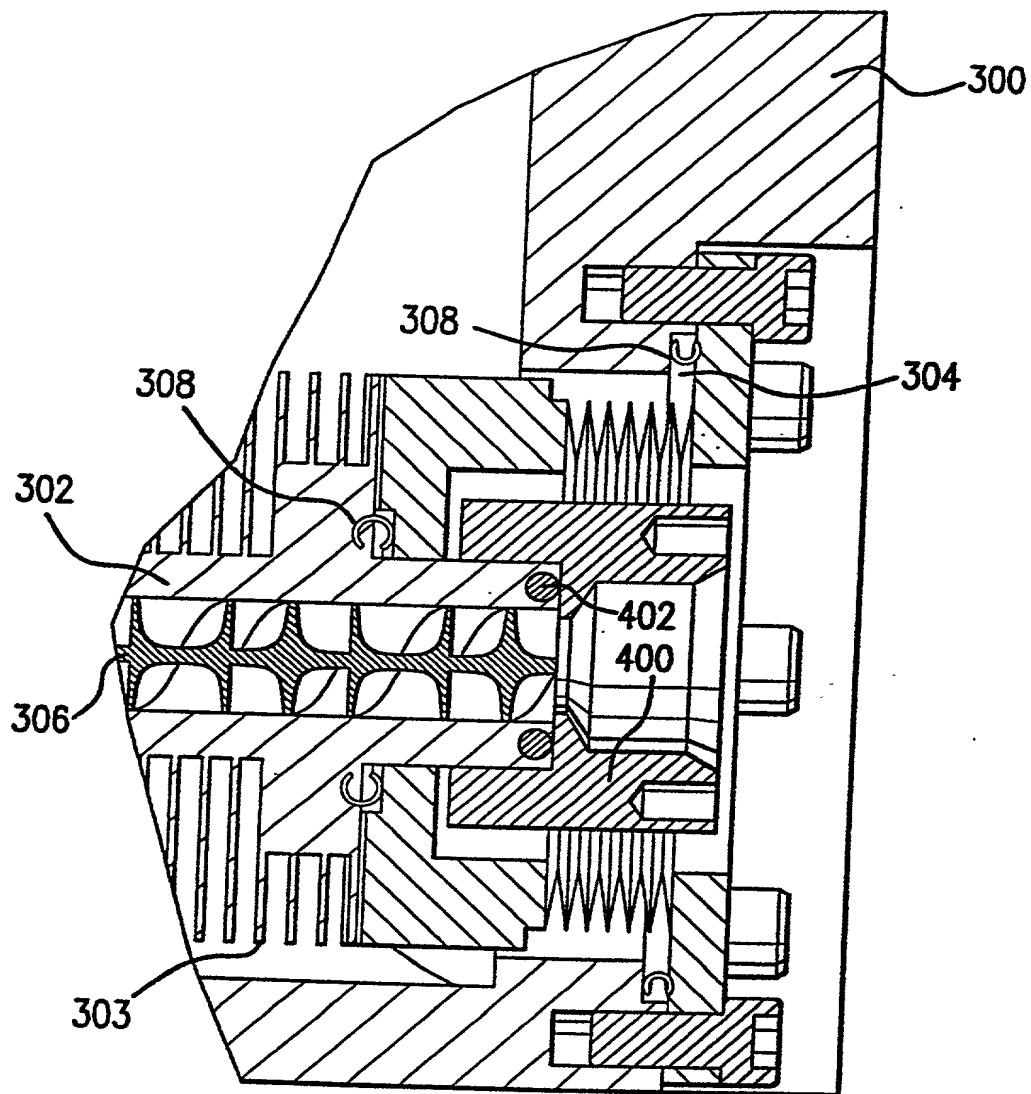


FIG.21A

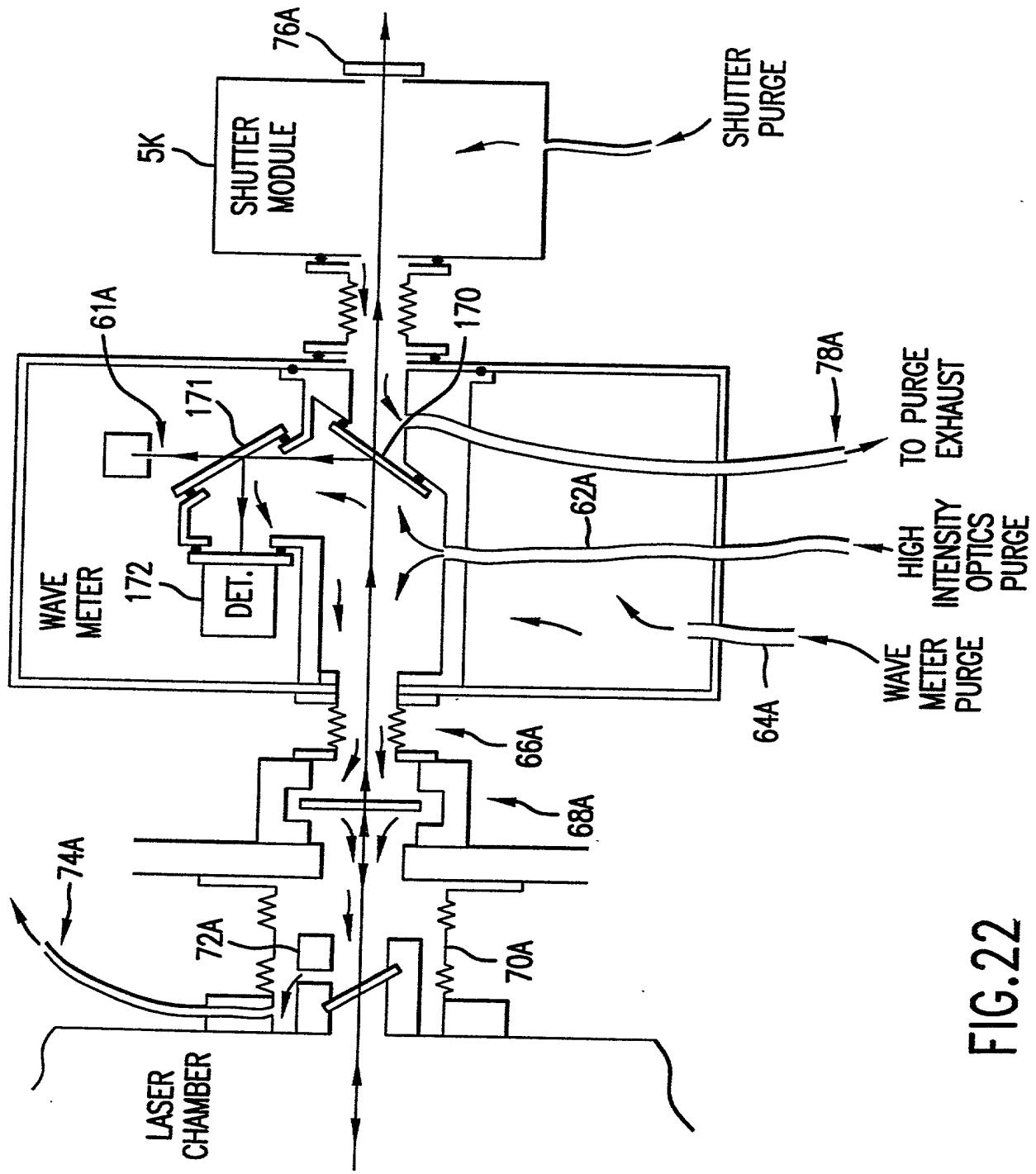
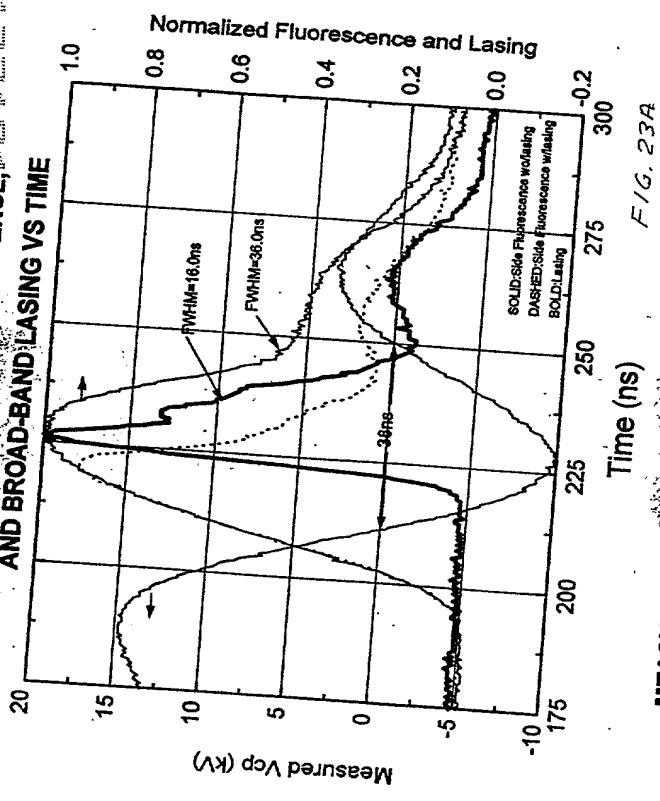
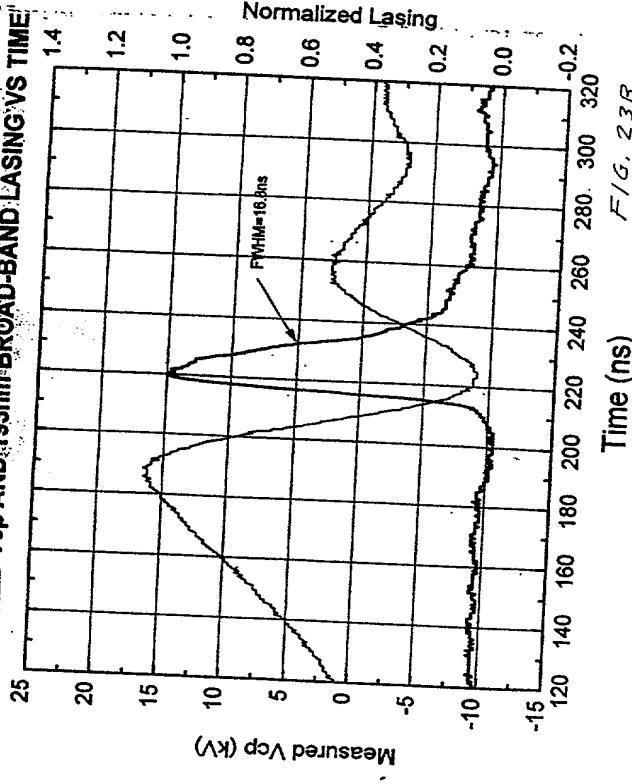


FIG.22

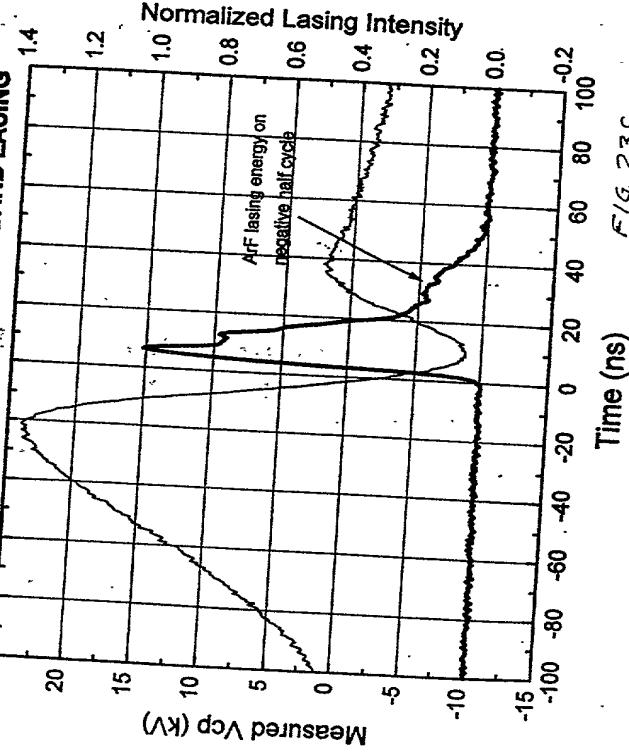
MEASURED V_{cp}, FLUORESCENCE, AND BROAD-BAND LASING VS TIME



MEASURED V_{cp} AND 193nm BROAD-BAND LASING VS TIME



MEASURED V_{cp} AND 193nm BROAD-BAND LASING



MEASURED V_{cp} AND 193nm BROAD-BAND LASING

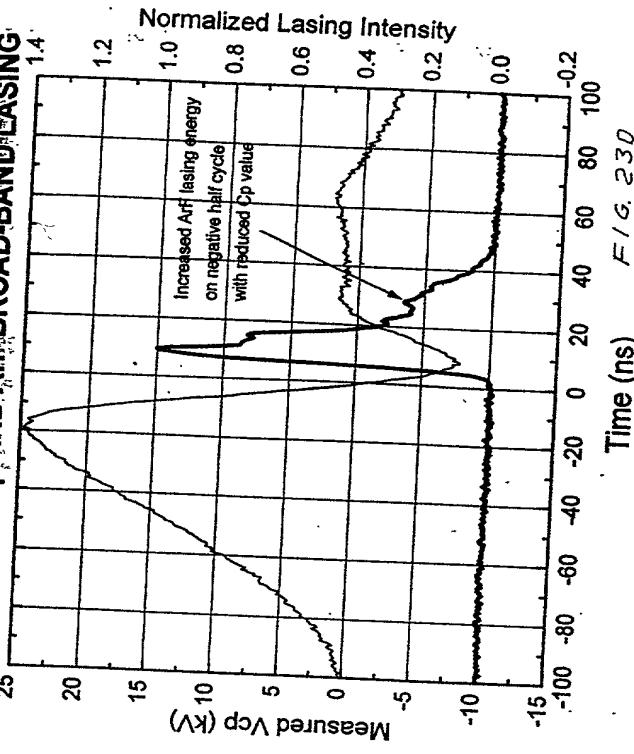


FIG. 23 F

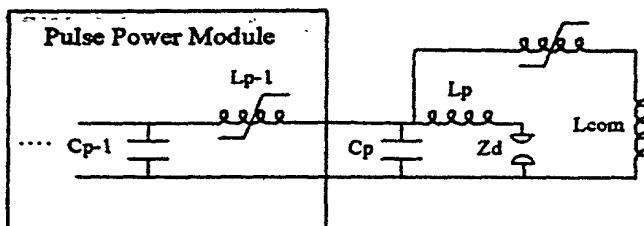


Fig. 11. Schematic diagram of the Current Overshoot Maximizer (COM).

FIG. 23 G

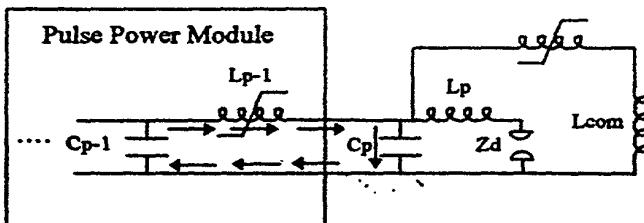


Fig. 12a. Step 1 in COM operation: pulse-charging of C_p .

FIG. 23 H

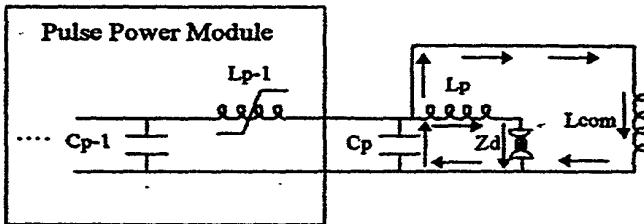


Fig. 12b. Step 2 in COM operation: COM switches on nearly simultaneous with beginning of avalanche discharge.

FIG. 23 I

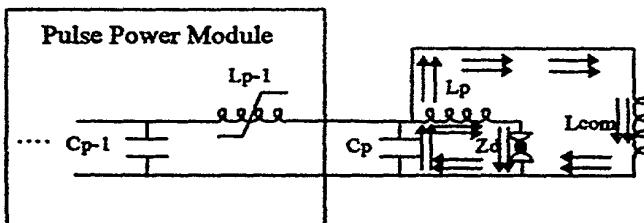


Fig. 12c. Step 3 in COM operation: current flow builds in the discharge and L_{com} .

FIG. 23 J

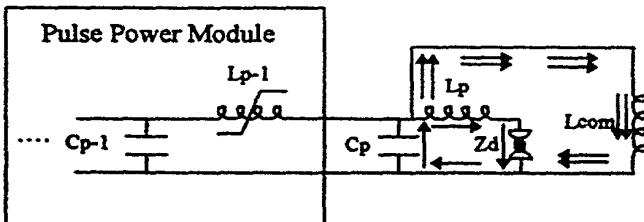


Fig. 12d. Step 4 in COM operation: the voltage on C_p passes through zero and the current flow through the discharge begins to subside, but the L_p inductance and the L_{com} inductance force continued current flow from C_p .

FIG. 23K

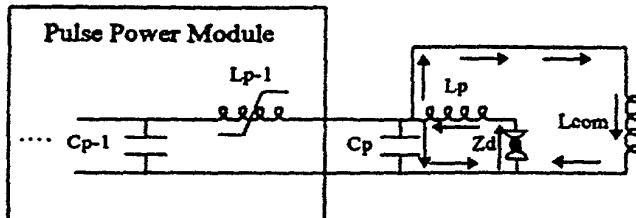


Fig. 12e. Step 5 in COM operation: The current through L_p and the discharge finally reverses and this current flows into C_p and L_{com} .

FIG. 23L

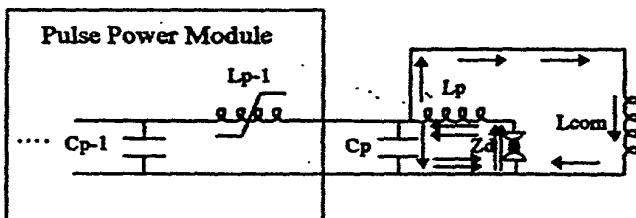


Fig. 12f. Step 6 in COM operation: The reverse current flow through the discharge is driven by both the L_{com} current and the negative voltage on C_p and thus is increased over that obtained by V_{cp} overshoot only.

FIG 23 M

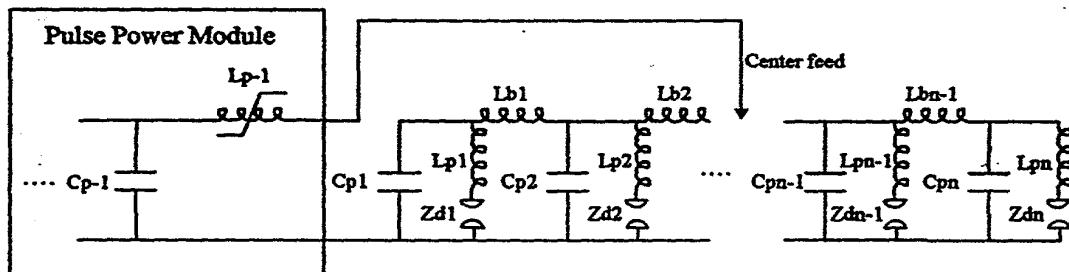


Fig. 13. A more accurate schematic representation of the laser chamber showing the distributed circuit components.

FIG. 23 N

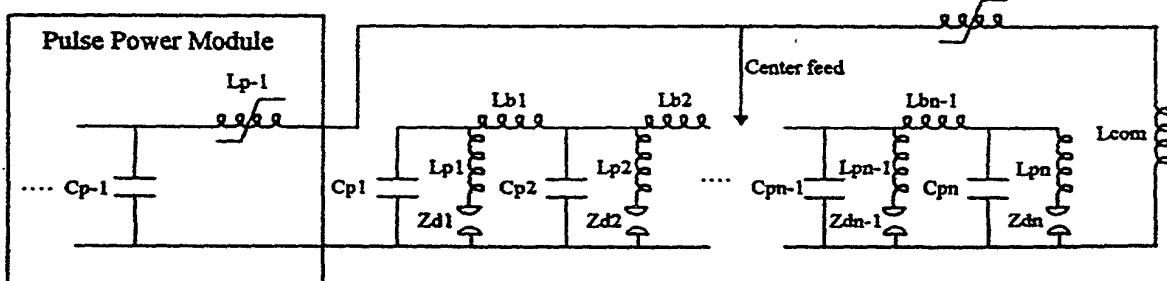
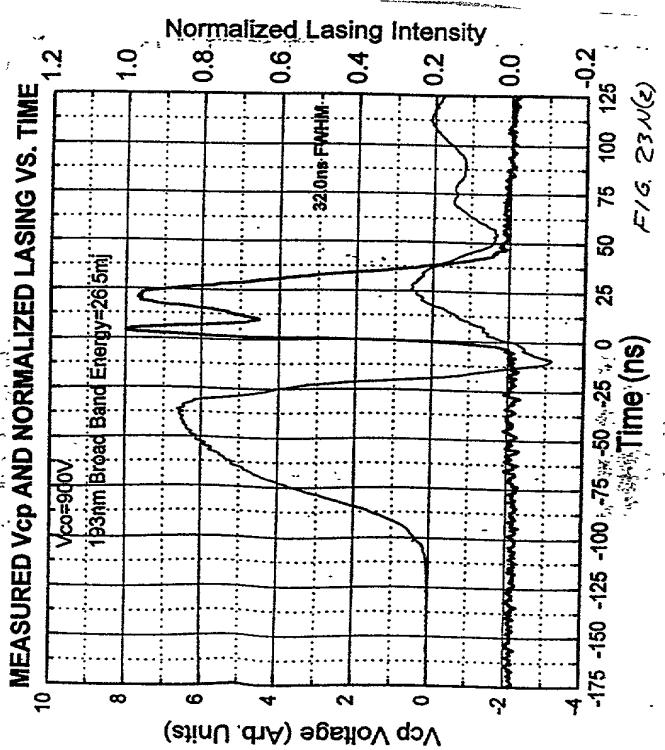
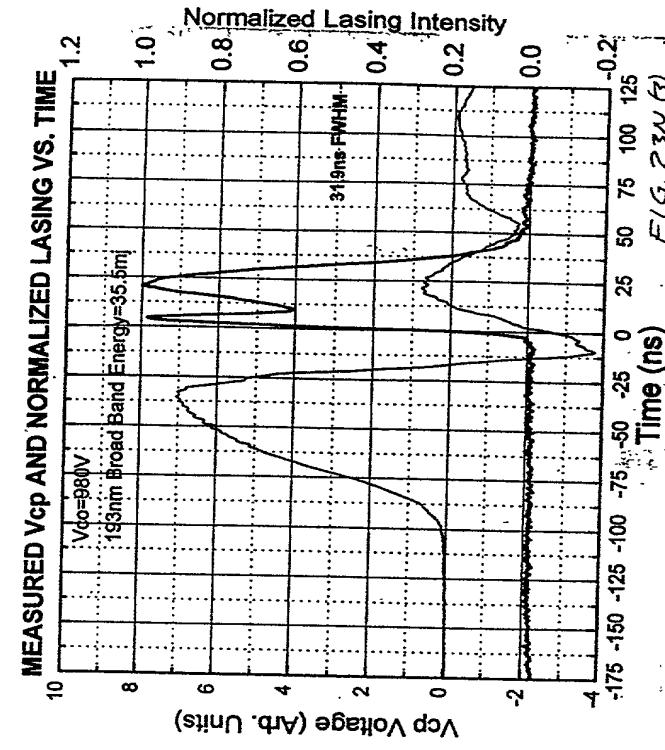
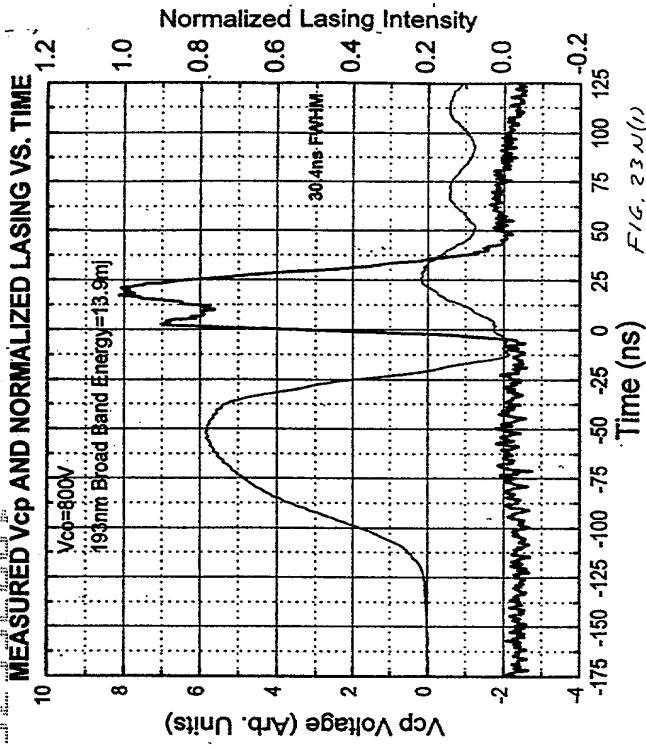
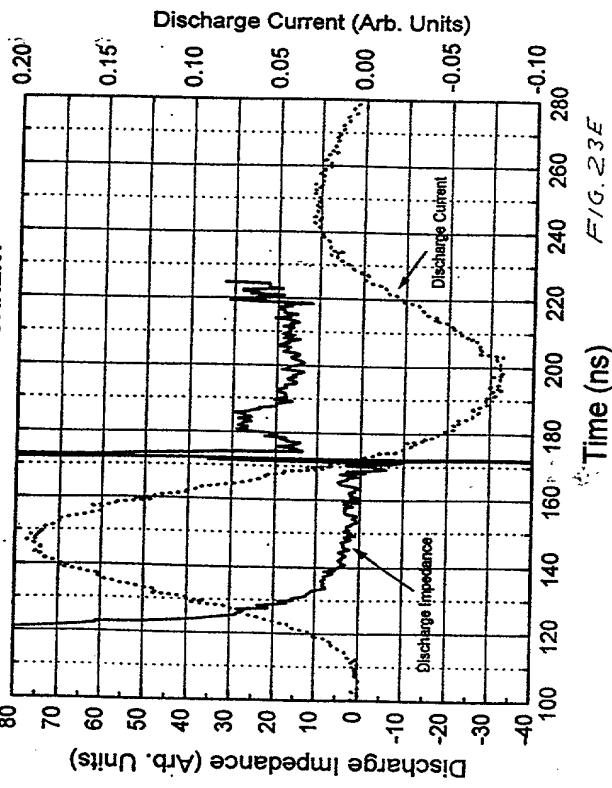
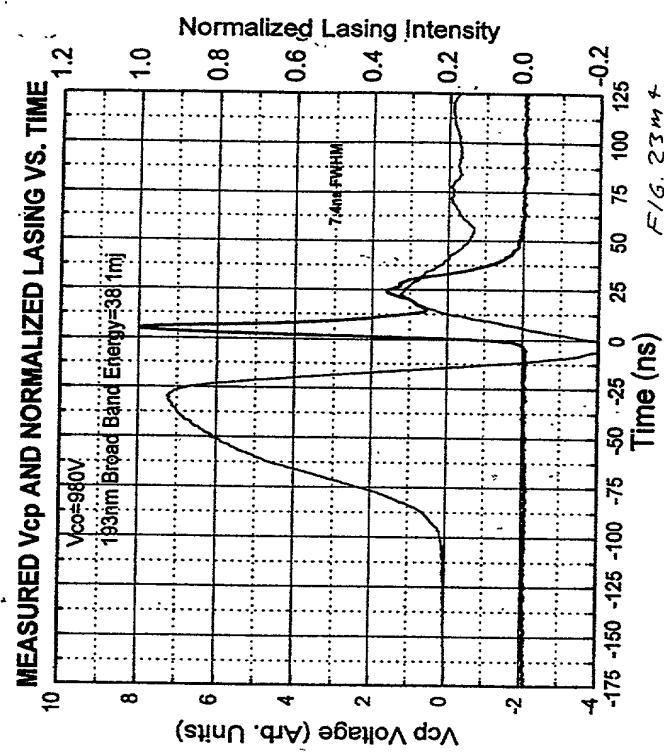
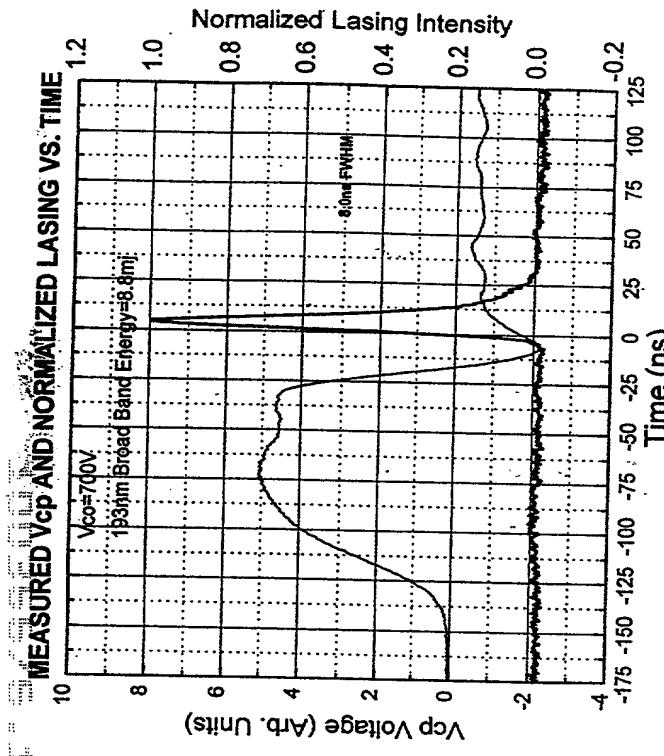
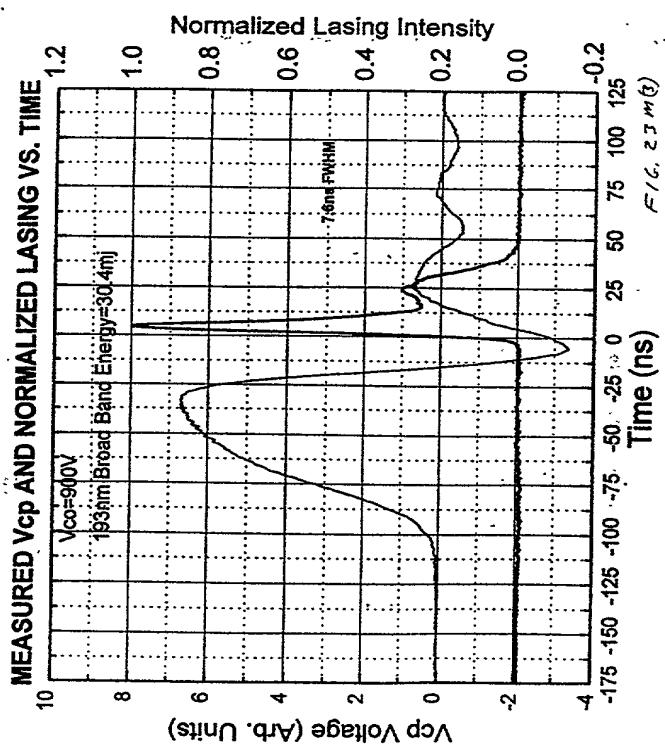
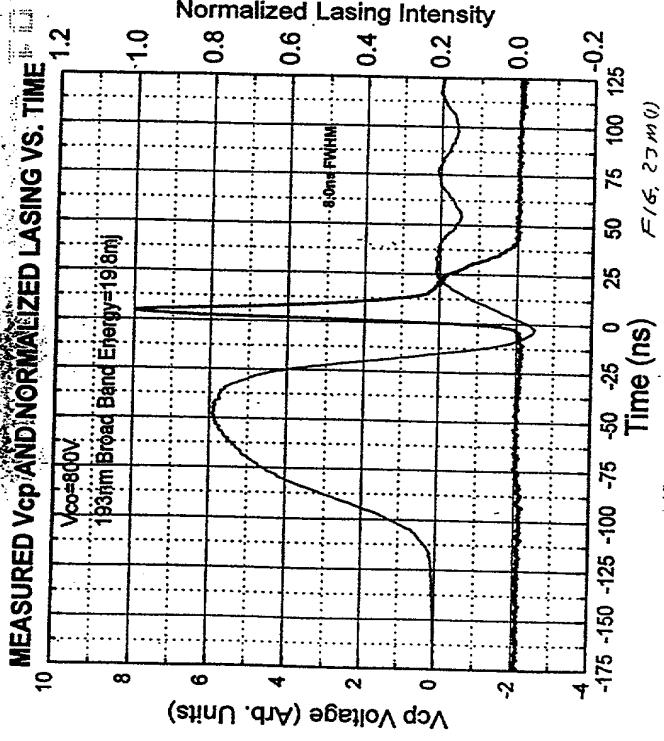
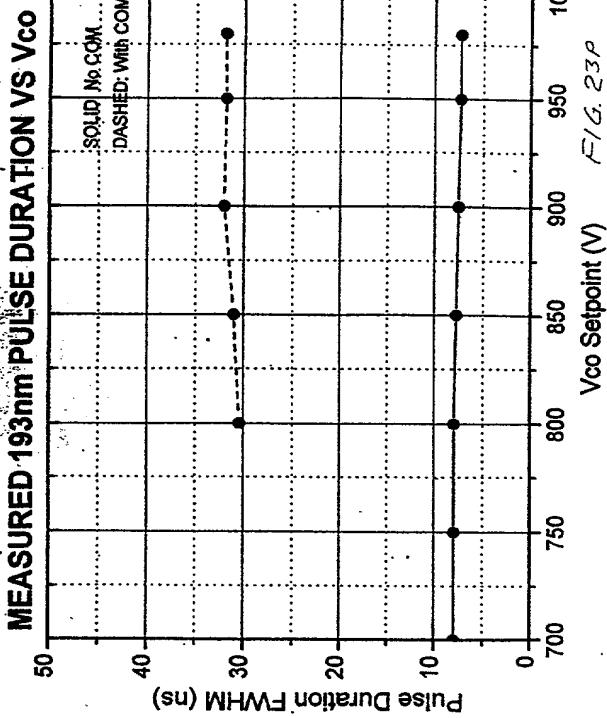
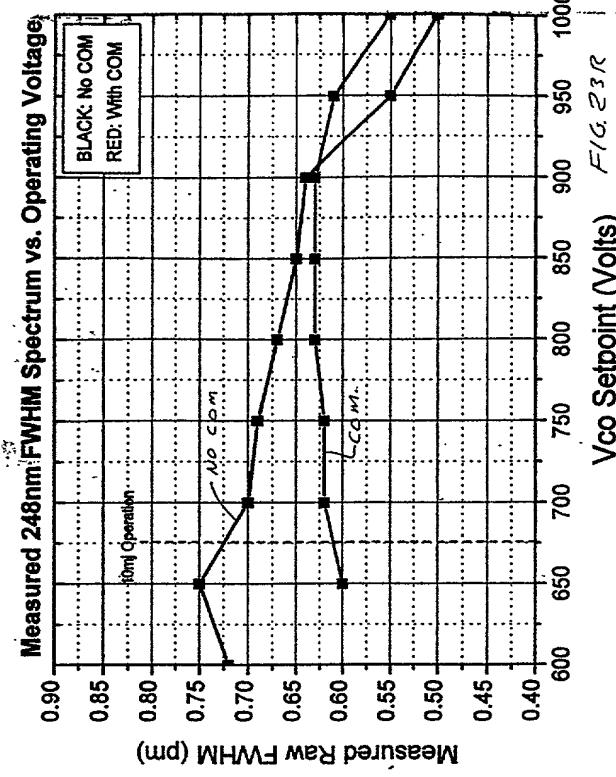
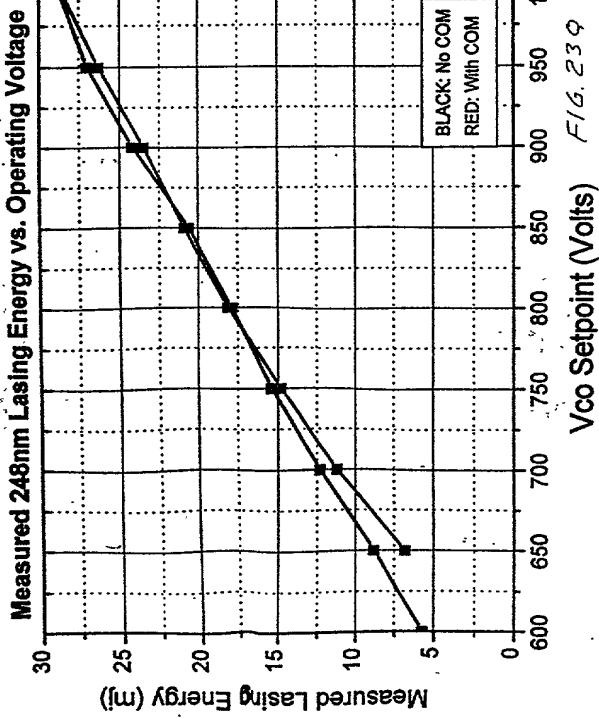
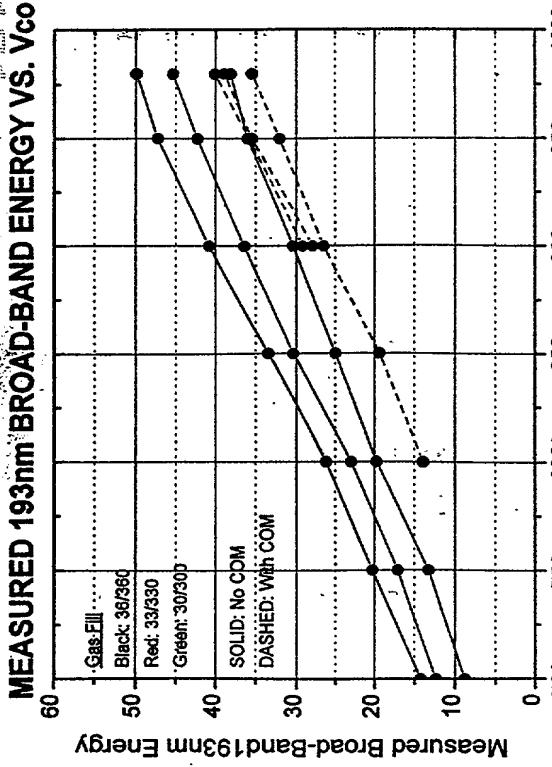


Fig. 14. The COM inductor and its relation to the distributed circuit components of the laser chamber.

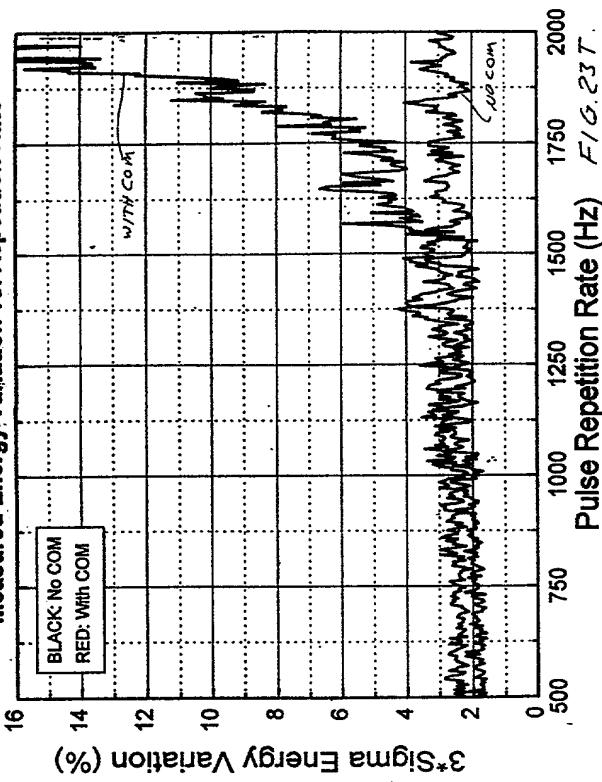
CALCULATED DISCHARGE IMPEDANCE AND
MEASURED DISCHARGE CURRENT







Measured Energy Variation vs. Repetition Rate



Measured 248nm 95% Spectral Integral vs. Operating Voltage

